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APPLICATION FOR LETTERS PATENT

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**PURCHASING ON THE INTERNET USING VERIFIED**  
**ORDER INFORMATION AND BANK PAYMENT ASSURANCE**

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# **Purchasing on the Internet Using Verified Order Information and Bank Payment Assurance**

## **1. TECHNICAL FIELD**

The technical field of this invention is methods and systems for purchasing on the internet or other global computer information network without need for transferring charge card numbers or similar sensitive financial or personal account information during the purchase transaction.

## **2. BACKGROUND OF THE INVENTION**

### **2.1 Internet Purchase Transactions**

The volume of commercial transactions being conducted by communication over the internet has grown dramatically. These transactions typically include placement of orders by purchasers using a merchant or plural merchants who are paid by one or more credit card companies or banks using credit or debit accounts. This trend will continue and the volume of purchase transactions conducted over the internet will increase, probably at an accelerating rate.

A typical internet purchase transaction includes an order which is placed with a merchant. The order information is assembled by the customer, typically using the customer's name. If the customer is a company or other organization, then the order will include both the company name and the name of the person who is

1 using the computer. Such user names are also included to better process the  
2 order and provide greater accountability.

3 The home address, business address, or other mailing and/or billing  
4 addresses are frequently required by the merchant during the order session to  
5 create an order file. Also included as part of the order information is the shipping  
6 or delivery address. If the order is for shipment to a third party, then the shipping  
7 or delivery address is different from the customer address.

## 8 **2.2 Order Response Communication**

9 Internet purchasers are also typically invited to provide an email address to  
10 which an order response communication can be sent. Alternative order response  
11 communications can be used, such as phone, letter or other. The order response  
12 communication is most often in the form of a confirmation communication providing  
13 the customer with pertinent transaction information and a message which  
14 reassures the customer that the order has been successfully communicated and  
15 is being processed.

16 Additional information which may be gathered in connection with an internet  
17 purchase may include telephone contact information, purchase order numbers,  
18 invoice numbers and additional billing or customer information.

19 In most internet purchase transactions the order is processed and paid using  
20 a bank credit or debit card. The information provided by the customer includes an

1 account number, card expiration date, card holder's name and the type of card  
2 being used. The charges for the order are posted against the customer account  
3 number as a charge entry or entries. These entries can be either a credit charge  
4 entry or a debit charge entry, depending on whether the charge account is a credit  
5 card account or a debit card account.

6 Placement of orders for internet purchasing using charge card accounts is  
7 now widely conducted using the limited information just described – account name,  
8 account number, and expiration date. This information is available on the face of  
9 most charge cards. Because of this, it is relatively easy for a thief using a stolen  
10 charge card to purchase items over the internet. The frequency of internet charge  
11 card fraud is increasing and the associated costs are also rising. Whether the  
12 order is authentic or a fraud is almost impossible to determine unless the charge  
13 card has been reported as stolen and been deactivated.

### 14 **2.3 Initial Processing By Merchant**

15 After an internet purchase order is placed, the merchant then undertakes  
16 initial processing of the order. Initial processing includes a merchant's review of  
17 the requested goods or services to determine whether the order can be properly  
18 processed and whether the ordered goods or services can be provided to the  
19 purchasing customer. This initial processing varies from one merchant to another.





1 whether the customer has adequately arranged for or provided payment for the  
2 ordered items. The merchant considers the payment information contained in the  
3 order and then decides whether to accept or reject the order on this assessment.

4 One widespread form of payment assessment involves orders placed using  
5 credit or debit cards as the means for payment. The customer provides sensitive  
6 charge account information via the internet as explained above. This information  
7 is then used by the merchant to determine whether the customer's account can be  
8 charged for the ordered items to pay the merchant. The ordered items may be  
9 goods, services or a combination of goods and services.

#### 10 **2.4 Prior Art Communication of Account Information**

11 The current practice involves not only the communication of sensitive  
12 account information between the customer and merchant when the order is initially  
13 placed, but also the secondary retransmission of this account information between  
14 the merchant and the bank card company. The order is usually accepted by the  
15 merchant after receiving charge authorization from credit card companies, such as  
16 VISA™, MASTERCARD™, DISCOVER™, and AMERICAN EXPRESS™, or  
17 processing companies working in their behalf or service. The established  
18 approach involves two or more transmissions of the customer account name,  
19 account number, expiration date of card, and the amount to be charged to the  
20 customer's account for the ordered items.

## **2.5 Dishonored Bank Card Account Transactions**

Submission of charge requests to the bank card processors for authorization does not necessarily result in a merchant receiving actual payment. Most businesses receive the customer order and submit a request to the bank card processors for authorization to charge a particular customer's account. In some cases this involves two separate queries by the merchant.

In reviewing a charge request, a first analysis is performed by the bank card processor to determine if the account is valid and active. In a second query, the bank card company or another related bank card processor performs a second analysis to determine if the account has sufficient credit or funds. Both of these queries can also be performed in a single request to a single processing operation serving the merchant or charge card company being used.

The bank card processor responds to the merchant's request for authorization at the time of submission of the authorization request. This can be at or near the time the order is placed or the sale transaction is being conducted. The submission of an authorization can also occur at a later time, particularly when the merchant is taking numerous orders at a substantial frequency. Depending upon the merchant's business, an authorization request or requests can also be routinely submitted later. For example, telephone orders can be processed later

1 in the day or next day, and/or prior to shipment of the goods or rendition of the  
2 services.

3 Surprisingly, although a merchant may receive a positive authorization to  
4 charge from the charge card processing company, this does not insure the  
5 merchant will actually be paid on the transaction. This uncertainty arises because  
6 merchants submit their charge card sales to a designated processing bank for  
7 payment to the merchant's account. This is usually done in the form of an  
8 electronic file which is submitted hours or even days after the authorization request  
9 may have been submitted by the merchant, and approved by the bank card  
10 processor. The actual requests for payment are submitted usually at the end of  
11 the business day, but can be at various times.

12 Whatever the merchant's practice, there is an inherent delay between the  
13 time the request for authorization to charge is approved and the time the merchant  
14 makes an actual demand for payment. The demand for payment is made at the  
15 time such demand is processed at the merchant's processing bank. Under the  
16 terms of the merchant's agreement with the bank card company, the charge may  
17 or may not be paid. For example, if other merchants or banks have in the  
18 meantime requested payment or advanced cash so that the customer's account  
19 has reached its available credit limit or account balance, then the merchant's  
20 demand for payment may be dishonored even though it was previously authorized.

1 Depending on the circumstances, the merchant may end up being paid later or  
2 never. Merchant's suffering such dishonored charge transactions are dissatisfied  
3 since authorization was given to charge against the account. Nonetheless, the  
4 terms of the merchant's agreement with the charge card company will be  
5 determinative, and many or most card companies have the ability to dishonor a  
6 charge if the account exceeds the available credit limit or account balance.

7 The merchant's decision as a result of the initial processing is most  
8 frequently to accept the order. However, the initial processing may be lengthened  
9 in some situations because a merchant may await irrevocable payment from the  
10 merchant's processing bank before shipment of goods. This can be done to avoid  
11 the risk that the charge transaction will be dishonored or paid late. However, it has  
12 the disadvantage of increasing the time between order and shipment. This delay  
13 to avoid dishonor may end up hurting the merchant's business in a general manner  
14 because of negative effects on responsiveness and business volume. This may  
15 be incurred to address the problem of dishonored charges.

## 16 **2.6 Order Acceptance By Merchant**

17 For internet purchase transactions, whether the merchant's initial processing  
18 response is acceptance, rejection, or request for additional information, a response  
19 is usually communicated by the merchant to the customer in a relatively short  
20 period of time, usually less than 1-2 days. This initial processing response

1 communication can be done in a number of suitable ways. Most typically, the  
2 merchant's initial processing response is communicated by sending an email to the  
3 customer.

4 Although a variety of formats are used for merchant initial processing  
5 responses, the responses usually involve sending a confirmation that the order has  
6 been received and accepted. An invoice or other transaction control number is  
7 usually assigned. The merchant also typically indicates that shipment has or will  
8 occur on or about an expected shipping date. Alternatively, the confirmation may  
9 state the customer should expect delivery at the delivery address on or about a  
10 certain delivery date.

## 11 2.7 Electronic Commerce Fraud

12 A substantial amount of effort has already been expended in setting up  
13 internet purchase transaction systems. Despite these earlier efforts, there is a  
14 continuing and increasing risk of electronic commerce fraud. The problem of  
15 internet fraud has been previously approached by creating secure or encrypted  
16 network communications techniques. Although the commercial establishments  
17 developing and using these techniques espouse confidence to the public, there are  
18 common fears that electronic commerce fraud will both escalate in number and  
19 become of greater value. ***The use of secure or encrypted techniques are not***  
20 ***effective where the account card or key account information has been stolen***

1 **and is being used fraudulently.** Fraudulent charges may occur for some time  
2 before being reported or detected and the account is deactivated.

3 The internet or possibly other causes have also led to a growing problem of  
4 identity theft. This problem can have a devastating effect on the person who has  
5 their normal identity stolen. In identity theft, an impostor obtains sensitive personal  
6 information, such as social security numbers, bank account numbers, charge  
7 account numbers, driver's license numbers and other information having important  
8 identification attributes. The victim of identity theft is usually left with a number of  
9 overdue accounts having large balances run up by the impostor. The abused  
10 accounts are frequently discovered long after the fraudulent activity first began.

11 In many instances the victim of identity theft has difficulty in clearing their  
12 name from the abusive use by the impostor. This has led many such victims to  
13 change their names to alleviate the problems of credit record destruction and other  
14 effects of the identity theft.

## 15 **2.8 General**

16 Some or all of these problems and other objectives and considerations are  
17 addressed by the current invention which is described more fully below.  
18 Terminology and information used in this background discussion is also applicable  
19 to corresponding aspects of the invention as described below. The reader should  
20 also understand that some of the benefits and advantages of the invention are

given in this description, whereas others may become apparent later, in light of further use and study of the invention.

### **3. BRIEF DESCRIPTION OF THE DRAWINGS**

Preferred embodiments of the invention are described herein with the help of accompanying drawings which are now briefly described.

Fig. 1 is a block diagram indicating a prior art equipment arrangement for conducting purchase transactions over the internet. This diagram also shows some of the principal actions indicated by arrows.

Fig. 2 is a process block diagram indicating processing steps used in prior art internet purchase transactions, such as shown in Fig. 1.

Fig. 3 is a block diagram indicating an equipment arrangement for conducting transactions over the internet according to this invention. The diagram also shows some of the principal actions indicated by arrows.

Fig. 4 is a process block diagram indicating processing steps used in a preferred embodiment of the invention.

Fig. 5 is a diagram illustrating a series of exemplary screen displays during placement of an order by an existing customer account using the invention.

Figs. 6 and 7 are diagrams illustrating a series of screen displays and process steps involved in an alternative form of the invention wherein a new



customer is processed partly on-screen and partly via telephone to effect customer set up.

#### **4. DETAILED DESCRIPTION**

##### **4.1 Introduction**

The current invention has several features, functions and aspects which are explained below. Additional aspects may also be appreciated from the background description given above and the claims presented hereafter.

The invention includes improved methods and associated systems for conducting a purchase transaction over the internet or other widespread or global computer information network or networks. The novel methods for conducting purchase transactions have a number of steps or phases with associated features. Also included are combinations and subcombinations of the enumerated steps, phases and features. The novel methods can be used in connection with a variety of purchase items, including either goods or services, or both, in the same or separate transactions.

In one aspect the preferred methods involve creating a customer account with a financial organization which is a bank, a business akin to a bank, or other similar financial institution functioning as provided for herein. For purposes of convenience, such organizations shall herein be referred to simply as a bank. However, such use of this term should not be interpreted as implying any legal

requirements for being called a bank, or implying attributes other than those which are at issue in the methods performed as described herein.

In the methods according to the invention, the bank provides a customer account which is associated with a customer. The bank has a record of the customer account that includes associated customer account information. In some implementations of the invention the customer account is set up prior to any purchase transaction over the internet. In other forms of the invention the customer account is in part created during an initial interaction between the customer and bank, such as via the internet. This is coupled with supplementary set up with the bank wherein the customer supplies additional account information later, or confirms initially provided account information in second or subsequent setup sessions.

Prior to providing further explanation of the methods according to this invention, the discussion will now turn to a description of a prior art internet purchase transaction with reference to Figs. 1 and 2.

#### **4.2 Prior Art Internet Purchase Transaction**

Fig. 1 shows a diagram representing principal equipment and key actions involved in a common internet purchasing transaction. A customer computer 10 is operated by a human user (not illustrated), for example a person using his or her home or office computer. The customer has an internet service provider with data

1 processing equipment 12 that provides service to the customer allowing the  
2 customer to communicate over the internet 15 to a large number of internet web  
3 sites. The customer accesses web sites of interest in the well-known fashion.  
4 One web site is represented by the merchant's internet service provider with data  
5 processing equipment 18.

6 Fig. 1 also shows a merchant computer 20 which is under the control and  
7 direction of a merchant. The merchant computer provides the information which  
8 the merchant wishes to present to the public over the internet. This typically  
9 includes general company information and products and services which the  
10 merchant offers to sell. The goods and services may be produced or rendered by  
11 the merchant, or they may be produced, rendered and/or distributed through other  
12 businesses with the merchant being just an order processor or one of several  
13 sources for the offered items.

14 Communications links between the customer computer 10, customer internet  
15 service provider 12, internet 15, merchant internet service provider 18 and  
16 merchant computer 20 may use a variety of data processing communications  
17 vehicles. Future advancements in communications vehicles allowing such data  
18 processing communications are expected to perform the same or similar functions,  
19 or enhanced functions which are not yet available.

1 Fig. 1 also shows a bank computer 30. Bank computer 30 stores or  
2 accesses customer account information relating to the bank's customers who have  
3 charge accounts, such as VISA™ and MASTERCARD™. The bank computer or  
4 computers 30 also perform certain analyses which are initiated by a merchant  
5 requesting authorization to charge a particular customer account.

6 Fig. 2 further illustrates steps performed in a typical prior art internet  
7 purchase transaction. The customer computer accesses the merchant computer  
8 in step 41 to obtain information relating to the customer's interest and planned  
9 placement of an order or orders.

10 Step 43 involves interaction between the customer computer and the  
11 merchant computer wherein the customer builds an order file. The order file  
12 includes the ordered items, the shipping or delivery address, the cost, **and**  
13 **sensitive customer charge account information**. As explained above the  
14 customer charge account information usually includes the account name, account  
15 number, card type, card expiration date and the amount to be charged the  
16 customer's account.

17 After the customer has provided such order file information, then the  
18 merchant checks the order file for completeness in step 45. In step 47 the  
19 purchaser submits the order file to the merchant. The merchant then performs  
20 initial processing in step 49. The merchant's initial processing may include one or

1 more analyses which implement the merchant's policies concerning submission  
2 and processing of customer orders. For example, the merchant may perform an  
3 analysis to see if the item selected by the customer is available and the date of  
4 availability. This may be compared against management-determined ranges for  
5 acceptable delivery response.

6 The initial processing by the merchant computer also commonly involves  
7 payment analysis to determine whether the order has been placed using a  
8 payment method which is valid and authorizes payment. The payment analysis  
9 usually processes instructions from the customer computer to charge a bank card  
10 charge account, which can be either a credit or debit account associated with the  
11 customer. To properly process such a payment method, the merchant typically  
12 submits the requested transaction for approval or authorization by the bank card  
13 company or it's processing service, as illustrated in step 51 of Fig. 2. The payment  
14 analysis uses the customer charge account number, expiration date, cardholder's  
15 name, and the amount of the charges being submitted for approval.

16 Step 53 of Fig. 2 represents the bank's analysis of the authorization request.  
17 This bank card analysis uses the customer account number and internal  
18 information, such as the credit or account limit on a credit account or account  
19 balance on a debit account. The analysis determines whether the bank authorizes

1 a charge to be made against the identified account. The bank then responds to  
2 the merchant in reaction to the charge authorization request in step 55.

3 The merchant then completes any additional order analysis or processing in  
4 step 57. Step 59 indicates communication of the initial order processing response  
5 from the merchant to the customer. This can be a confirmation of the order,  
6 refusal of the order, or query for additional information.

7 If the initial response includes acceptance of the order, then the merchant  
8 charges the customer charge account with the bank, as illustrated in step 61. The  
9 merchant's acceptance of the order leads to shipment of the order as directed by  
10 the customer when the order file was submitted in step 63.

11 This prior art practice includes transmitting sensitive account information  
12 between the customer computer 10 and the merchant computer 20. Such  
13 transmission is a security risk when transmitted over the internet. The basic  
14 internet structure is an open computer architecture which allows free access to  
15 everyone and involves repeated copying and re-transmission of data being  
16 communicated.

17 Security is also compromised when the merchant computer sends an  
18 authorization request to the bank computer 30. Again, this risk is increased if it  
19 occurs via the internet. Security may still again be compromised if account



1 The current methods for transacting purchases over the internet increase the  
2 risks of fraud because commonly transmitted charge account information used in  
3 each internet purchase is sufficiently complete to be used in the conduct of a  
4 fraudulent charge using another merchant who may be located anywhere in the  
5 world.

#### 6 **4.3 Preferred System Equipment Configuration for Invention**

7 Fig. 3 shows a preferred equipment configuration and some aspects of  
8 preferred methods according to the current invention. Customer computer 10 is  
9 linked with the internet using the customer internet service provider computer 12.  
10 Data communications are conducted via the internet 15 between the internet  
11 service provider 12 and the merchant internet service provider computer 18.  
12 Merchant computer 20 is linked to the merchant internet service provider 18. All  
13 links use conventional data communications vehicles or suitable future technology  
14 communications vehicles.

15 Fig. 3 also shows merchant computer 20 communicating with bank computer  
16 30. This can be a secure communications vehicle or via the internet as shown.  
17 The merchant internet service 18 connects through the internet 15 to bank internet  
18 service provider 28. Bank computer 30 is connected to the bank internet service  
19 provider 28. Bank computer 30 stores or otherwise controls access to customer



1 account information and other bank information or third party information accessed  
2 by the bank computer.

3 Fig. 3 further illustrates customer computer 10 in communication with the  
4 bank computer 30 via the internet. Customer computer 10 is again connected by  
5 the customer internet service provider 12 to internet 15. Internet 15 is connected  
6 to bank internet service 28 and hence to bank computer 30.

#### 7 **4.4 Preferred Communications Linkages**

8 The diagram shown in Fig. 3 illustrates a significant difference utilized in  
9 some of the preferred methods according to this invention. Fig. 3 indicates that  
10 the customer computer 10, merchant computer 20 and bank computer 30 can be  
11 in simultaneous or effectively simultaneous communication. Simultaneous or  
12 effectively simultaneous communication allows one party to communicate with  
13 another and immediately thereafter the same party can communicate to another  
14 party thus allowing a three party data flow on a real-time or nearly real-time basis.

15 Simultaneous communication does not necessarily imply that all three parties  
16 are engaged in a multi-party communications session where all or more than two  
17 parties are receiving the same data, voice, video or other communications mode  
18 provided by or to all other parties. Instead, it is preferred that the simultaneously  
19 or approximately simultaneous communication between these parties is established  
20 by discrete communications linkages. These discrete communication linkages are

1 advantageously not in communication with other linkages except as controlled by  
2 the merchant, bank or customer computers acting as communications nodes in the  
3 purchase transaction communications tree.

4 As illustrated, Fig. 3 most clearly indicates three discrete communications  
5 linkages which define communications routes between the three key parties – the  
6 customer computer 10, the merchant computer 20 and the bank computer 30.  
7 This allows each of the three communicating pairs to communicate independently  
8 in a communications triad. In this communications triad each link communicates  
9 separately using different communications routes and/or vehicles. They can each  
10 also use different means for providing encoding, encryptions, data compression,  
11 or other data processing and communications techniques which make interception  
12 of meaningfully complete account information dramatically more difficult or  
13 effectively impossible.

14 These discrete communications linkages also enhance security for the  
15 processing of an internet purchase transaction without necessarily requiring use  
16 of encoding and encryption techniques because the linkages are independently  
17 created and would in general not share the same communications vehicles and  
18 relaying internet computers. Instead, for example, one linkage may be  
19 communicated by satellite through relaying computers between New York and  
20 Atlanta, whereas another linkage may be via optical fiber data communications

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land facilities between Miami and Atlanta. The third exemplary linkage may be by microwave transmission and land lines between Miami and New York.

The separation of certain data processing functions and key information to one of the three or more communications linkages in the purchasing transaction communications tree, thus provides increased security against surreptitious interception or collection of internet communicated files that have all the information needed to effectuate a purchase transaction according to prior art techniques, such as discussed above for charge card transactions.

The above configuration advantageously includes having the customer computer establish one data communications link, sometimes referred to herein as a first data processing linkage having an associated first communication route. This is most preferably via the internet as illustrated so that the customer can in a conventional manner initiate shopping over the internet. This customer-merchant communications linkage can function in many of the conventional ways now known or hereafter developed.

The second data communications linkage is established between the customer computer 10 and bank computer 30 using an associated second communications route. The third data communications linkage is established between the merchant computer 20 and the bank computer 30 using an associated third communications route.

The first, second and third communications linkages are preferably initiated or established in an independent manner through independent communications initiatives and communicating using different communications routes. They also are preferably configured such that each is using a distinct communications vehicle or vehicles so that the data involved with the same internet purchasing transaction does not get transmitted over the same communications vehicles in the same or a related transmission. This provides inherent added security for this internet purchasing transaction data communications equipment arrangement.

It should also be recognized that one or more of the communications linkages in the purchase transaction communications tree may alternatively be via a non-internet communications vehicle. For example, the customer-merchant communications vehicle is via the internet as illustrated. The second communications link between the customer computer 10 and bank computer 30 also is preferably via the internet for ease and economy. Alternatively, the customer may for specific reasons have another linkage which is preferably a secure or dedicated communications link with the bank.

The third communications linkage is between the bank and merchant and is also preferably via the internet. It is alternatively possible that the third communications linkage may be via a non-internet communications vehicle, such

as a dedicated data transmission line, direct modem connection, or otherwise as is now known or hereafter becomes available in the art.

#### **4.5 Customer Account Setup With Bank**

The novel methods according to this invention include creating a customer account with the bank having certain attributes and features as explained herein. The setup of the customer account can be accomplished in a number of different ways, but includes limited communication of certain types of information relevant to the conduct of internet purchase transactions in accordance with the invention.

In general, the creating of a customer account involves associating the bank's customer account information with a particular customer. The customer can be an individual, association, government, corporation or other entity which is interested in conducting a purchase transaction over the internet utilizing the methods of this invention. The exact manner of associating the customer with the account can vary dependent upon the bank and how it wishes to organize the customer accounts and associated data. In one example, the customer account may be associated with a customer by using a customer identification code. The customer identification code may be an account number, account name, account alpha-numeric identifier or other means for identifying the customer in the records of the bank.

#### **4.5.1 Customer-Originated Account Information**

The creating of a customer account involves communicating information from the customer to the bank for use in connection with the customer account. The customer account information includes customer-originated information which is communicated by the customer to the bank. Examples of customer-originated information would typically include the customer's name, home and/or business address, phone number, social security number, tax identification number and other information, such as discussed below.

The customer-originated information may also include information which indicates physical location of the customer user or customer computer placing the order. More specifically, the customer-originated information may include a suitable device for determining the position of the customer user or customer computer being utilized in the ordering process. In one preferred form of the invention, customer-originated location information can be generated by a global satellite positioning device. Such global satellite positioning devices are commercially available in a wide range of forms and are often referred to as "GPS" units.

The global satellite positioning device may be separate from, or more preferably, directly included as part of the ordering computer. In the more preferred version the GPS unit can be included as part of the ordering computer

1 in a manner which has the GPS unit integrated into or coordinately affixed to the  
2 computer such that tampering is alleviated or totally prevented. The customer-  
3 originating information can thus have an additional factor which tends to increase  
4 the reliability of both verification and authentication processes as described  
5 elsewhere herein. This information can be used in set up of a customer or user  
6 or customer computer and then used as added confirmation verifying the user  
7 during a purchase transaction. It can also be used initially during account setup  
8 to serve as an authenticating piece of evidence as to the location of the computer  
9 which is requesting setup or subsequent use.

#### 10 **4.5.2 Bank-Originated Account Information**

11 The process of setting up the customer account may also include  
12 communicating customer account information from previous records of the bank.  
13 This may involve communication from one division of the bank to another division  
14 of the bank. Customer account information originating from the bank is herein  
15 termed bank-originated customer account information. The bank-originated  
16 customer account information may not need to be specially communicated and  
17 could be called upon by authorization of the customer or by policy of the bank.

18 The bank-originated account information may include address or physical  
19 location information which may be used in comparison to any GPS locational  
20 information provided by the customer user or customer computer. For example,

1 the customer may have prior accounts at the bank which have address information  
2 which includes physical address information. Obtaining user or customer computer  
3 GPS location information may be used to both set up, verify and authenticate the  
4 session between the customer and bank or merchant or both.

#### 5 **4.5.3 Third-Party-Originated Account Information**

6 Additionally, methods according to this invention may use customer account  
7 information provided by third parties. Exemplary third-party-originated information  
8 may include credit information from a credit reporting service or other business or  
9 credit reference. Another form of third-party-originated information may be various  
10 types of information from a government entity, public records or other publically  
11 available information.

12 The third-party originated information may also be considered to include the  
13 locational information explained above. The signals emanating from the global  
14 positioning satellites is originated from a third-party; namely, the operator of the  
15 satellites. This broadcast information is then processed by the GPS unit and  
16 produces a result indicating the physical location of the GPS unit. Development  
17 or use of secure GPS units which form a part of the user computer may render this  
18 factor of particular benefit in authenticating and verifying customer computer or  
19 customer user information during the setup or processing of a commercial  
20 transaction.



#### **4.5.4 Communicating Customer Account Information**

Preferred methods according to the invention include communicating some of the customer account information to the bank, preferably with at least some of the information being communicated via one or more communications vehicles which are not over the internet. This allows the customer account information to include information which comes via another mode, source or vehicle. This helps to provide additional security so that fraud cannot easily be practiced. Fraud may otherwise be possible merely by intercepting communications made via the internet, using publicly accessible files. The accessible files are then used for fraudulent schemes and can be easily perpetrated against prior technology.

Methods for communicating some of the customer account information may also include communicating via the internet for a portion of the customer account information. This allows simplicity in some aspects for setting up portions of the account or for providing additional information desired after the account has been set up or partially set up. Such internet communicated account information may come from any suitable source. For example, the customer may provide its name along with a request to setup an account via the internet. Other customer account data fields may be completed via telephone using customer-originated information, which may be combined with bank-originated information and third-party-originated

1 information, both or only one of which may be provided via the internet or using  
2 non-internet communications.

#### 3 **4.5.5 Customer Account Information Control & Maintenance**

4 The customer account information maintained by the bank, or by a service  
5 or equipment vendor maintained for the bank's use, is advantageously stored in  
6 the form of a data processing accessible database or the equivalent. The  
7 database can be maintained on a bank computer or computers, or at computers  
8 or other database storage and data processing equipment maintained for the bank  
9 and which is accessible thereto. The bank's access to the customer account  
10 database is preferably via a dedicated or secure communications conduit, such as  
11 within the bank's data processing equipment or between the bank's data  
12 processing equipment and a service vendor which utilizes a secure, dedicated,  
13 encrypted and/or encoded communications link with the bank.

#### 14 **4.5.6 Customer Account Information Field for Computer Identification**

15 The customer account information with the bank, or maintained for the bank,  
16 also preferably includes a number of customer account information fields. One  
17 customer account information field preferably includes customer computer  
18 information. The customer computer information includes at least one customer  
19 computer identification code or other computer identification information which is  
20 used to associate the customer account with at least one authorized customer

1 computer. The customer computer identification information kept by the bank is  
2 used to identify when a computer is an authorized customer computer which is set  
3 up and authorized to conduct transactions for the customer. The bank's customer  
4 computer identification information may include information for one customer  
5 computer, or a plurality of customer computers.

6 The bank's customer computer identification information may be used in  
7 connection with one authorized customer computer, or by more than one  
8 authorized customer computer. In one form of the invention a single authorized  
9 customer computer identification may be used on multiple computers; such as  
10 home, office, laptop, etc. for a single user. In another form of the invention the  
11 bank customer computer identification information may be uniquely associated with  
12 a single, particular customer computer in such a way that no other customer  
13 computer is associated with such information. This can be done by utilizing unique  
14 information which can be stored on the customer computer and is not capable of  
15 being reproduced onto another computer.

16 The associated bank data field used to specifically or uniquely identify an  
17 authorized customer computer may take various forms now known or hereafter  
18 developed. One example would be information kept by or for the bank which  
19 indicates what a file stored on the customer computer will contain when read or





1 in some forms of the invention have at least one non-internet communications  
2 vehicles used.

#### 3 **4.5.7 Customer Account Information Field for Delivery Address**

4 The process of setting up or creating the customer account with the bank  
5 also preferably involves providing the customer account with customer delivery  
6 address information associating said customer account with at least one authorized  
7 customer delivery address.

8 Customer delivery address information kept by the bank computer 30 can be  
9 inclusive of a single home or business delivery address. This provides a more  
10 secure purchasing transaction because methods according to this invention include  
11 verification of the shipping or delivery address directions given to the merchant so  
12 that shipments are directed to a street address or other address which is tied to  
13 the customer. The delivery or shipping address setup information is preferably  
14 information which can be authenticated. The setup authentication preferably uses  
15 third party authentication or bank-originated information which is useful for  
16 authenticating, and further preferably uses means other than internet  
17 communicated information ostensibly from the customer computer.

18 Authentication of the shipping or delivery address can in one form be  
19 provided by having the delivery address supplied for set up in the bank customer  
20 account records using a non-internet mode of communication, such as personal

1 communication. For example, a person could appear in person at the bank and  
2 provide personal identification for setting up a portion or all of the customer  
3 account verification information. Another possibility is for the customer to provide  
4 authorized delivery addresses and other customer account information to the bank  
5 via voice phone line. Other communications vehicles for supplying setup  
6 information may alternatively be used, such as direct modem communications  
7 between the customer and bank.

8 The shipping or delivery address is a key piece of order information because  
9 without such information the internet merchant cannot provide the goods or  
10 services requested. The shipping or delivery address also may serve as customer  
11 verification and authentication information according to some of the preferred  
12 methods according to this invention. The delivery address can be used as order  
13 verification information by having the customer include the desired delivery address  
14 as part of the order file and the merchant can submit the requested delivery  
15 address to the bank for verification and confirmation during the bank's analysis  
16 determining validation of the order.

17 In some embodiments of the invention the computer or user location  
18 information, such as GPS unit location information can be used to enhance or  
19 improve service or reliability. For example, if the customer specifies delivery to a  
20 delivery address which is confirmed by location information from an associated

1 GPS or other user or computer location indicator, then the processing of the order  
2 may be effected more quickly without using some of the other verification or  
3 authentication information. Alternatively, it may not save time in the processing of  
4 the order but may provide enhanced evidence of the authenticity of the ordering  
5 computer or user, and allow verification usually a bank data field for user  
6 and/or computer location information in GPS or other suitable location format.

7 During the course of a purchase transaction, the delivery address can  
8 alternatively be supplied by the bank to the merchant. This may be done after the  
9 customer has selected during communication with the bank, the desired authorized  
10 delivery address from a group of one or more previously set up authorized  
11 customer delivery addresses contained in the customer account records held by  
12 or for the bank.

13 To enhance security, the customer may during communication with the bank  
14 indicate the desired authorized delivery address from a set of available options  
15 and/or in a shorthand manner. For example, the customer goes through a delivery  
16 address selection process which allows the customer to only select one of the  
17 authorized customer delivery addresses set up in the bank's customer account  
18 information.

19 To further illustrate the shorthand presentation of authorized delivery  
20 addresses, the customer is placed in communication with the bank, such as



1 diagramed in Fig. 3. The customer is then prompted to select from his or her  
2 "home address" or "office address" as queried by the bank in an on-line  
3 communications sequence. The full home or office addresses need not be  
4 communicated between the bank and customer using the internet. The customer  
5 may click upon one of the addresses indicated in shorthand. This is done as part  
6 of requesting the bank to validate and authorize the transaction.

7 The bank is also requested to assure the merchant of payment and/or  
8 provide payment to the merchant. The bank, after successfully completing its  
9 validation analysis of the purchase transaction, sends assurance of payment to the  
10 merchant and directs that shipment must be to an authorized delivery address  
11 specified by the bank to the merchant. Alternately, the delivery address may be  
12 confirmed by the bank as supplied by the customer to the merchant.

13 The customer authorized delivery address information is preferably provided  
14 to the bank for account setup using a non-internet information source or  
15 communications vehicle, such as a voice telephone line. More preferably, the  
16 authorized customer delivery address information is provided to the bank by the  
17 customer using a caller identification telephone line which can be linked with the  
18 customer and/or authenticated as explained further below.

19 The customer may have routine address options such as home or office  
20 address. The customer may also have secondary or incidental delivery addresses

1 to which purchased goods may be directed. For example, secondary address may  
2 be setup regularly for close family members upon request from the customer in a  
3 request which can be authenticated to the true customer.

4 Incidental addresses used by the customer, such as for gifts to friends or  
5 other people, can be handled similarly. The customer calls and submits the  
6 additional authorized delivery address using a caller identification telephone line  
7 authenticated to the customer and/or user. The bank then edits the customer  
8 record to add the additional authorized addresses. These too can be presented  
9 in shorthand during purchasing transactions using a variety of different shorthand  
10 terms picked by the user.

#### 11 **4.5.8 Customer Account User or Computer Locational Information**

12 The bank may also maintain customer account information which indicates  
13 the location or locations which are authorized locations from which orders may be  
14 placed. The location information may be of various types, but is presently  
15 preferred to be some form of GPS coordinate information which is consistent with  
16 either a user GPS unit, or a GPS unit mounted in the customer computer, or both.  
17 It is preferred that the GPS locational information be encoded into a special  
18 encrypted format for communication over the internet or other modes of  
19 communication used in the methods according to this invention. The encryption

1 may take many forms as explained elsewhere herein and/or according to present  
2 or future encryption technology suitable for use in this application or applications.

#### 3 **4.5.9 Customer Account Field for Telephone Caller Identification**

4 The customer account with the bank may also include authorized telephone  
5 caller identification information which is associated with the customer. The  
6 telephone caller identification line information can be used to provide immediate  
7 authentication evidence if it matches with other customer account information.  
8 This may be supplemented using additional telephone company or other third party  
9 information which provides supporting authentication that the telephone line being  
10 used is associated with the customer for which the bank has an associated  
11 customer account.

12 The telephone caller identification information is preferably authenticated in  
13 some forms of the invention. The telephone caller identification information may  
14 be authenticated by third party authentication using the phone company or other  
15 third party.

16 Alternatively and more simply, the telephone caller identification information  
17 can be used directly as a verification parameter because the customer used the  
18 same telephone line when setting up the customer account with the bank. Thus  
19 the bank verifies that each purchase transaction communication between the

1 customer and bank is via the same telephone line or one of several authorized  
2 telephone lines.

3 It is also possible to use one or more of the above verification techniques in  
4 combination with an additional third party authentication process. This is  
5 preferably performed such as by comparison to a credit report which includes the  
6 customer's address information and telephone number. With these pieces of  
7 information, the customer telephone caller identification may match either or both  
8 the telephone line used during the customer account setup, and/or by comparison  
9 of the telephone caller identification information with third party information to  
10 perform an authentication process.

11 Another preferred form of the invention utilizes any available customer or  
12 user locational information to further authenticate the ordering computer. The GPS  
13 or other location information may be combined with telephone caller identification  
14 information which includes location or locations of the telephone line normal users.  
15 This may facilitate detection of fraudulent routing schemes which might otherwise  
16 misuse telephone caller identification alone or in combination with other  
17 parameters as explained herein.

#### 18 **4.5.10 User Identification Codes**

19 Customer account set up at the bank further preferably includes another field  
20 or fields of information to define authorized users for the customer account. This

1 is done by setting up a user personal identification number or other user  
2 identification information and coding. The user identification code may be selected  
3 by the bank, or the code may reflect the user's choice. A particular requested  
4 personal identification number or code can be numeric, alpha-numeric, alphabetical  
5 or some other code configuration.

6 The user identification code is set up, and is provided in the customer  
7 account records at the bank for the authorized user or users and the associated  
8 customer account. This personal identification information is preferably  
9 communicated using a non-internet means of communication. This is  
10 advantageously done using a secure non-internet means of communication. One  
11 suitable form of communication is via voice telephone line. Alternatively, an email  
12 communication to the user of the user's personal identification code may be  
13 employed. Email communicated over the internet may be acceptable depending  
14 upon the policies and levels of security determined by the bank and customer.  
15 Other modes of communication such as telephone caller identified voice  
16 discussion, written notification, or personal communication may also be suitable in  
17 some of the methods according to this invention.

1 **4.5.11 Customer Account Verification Information**

2 The customer account information kept by or for the bank includes customer  
3 account verification information. The customer account verification information  
4 may include one or more, or various selected combinations of the following types  
5 of information.

6 One verification parameter is the shipping or delivery address or addresses  
7 as discussed above. By performing a verification process using delivery address  
8 of a purchase transaction order, the bank can help assure that the set up of  
9 customer account information and/or purchase transaction includes goods or  
10 services which are being provided to an actual customer at it's authorized address.

11 Another verification parameter is customer computer identification information  
12 as discussed above. By performing a verification process using customer  
13 computer identification information at the bank and customer computer, the bank  
14 can help assure that the purchase transaction is being made from a computer  
15 authorized by the customer as a source for authorized purchase transactions.

16 A further verification parameter is telephone caller identification information  
17 provided on the telephone line used by the customer to communicate with the  
18 merchant, the bank, or both. By performing a telephone caller identification  
19 analysis, the bank can help assure that the purchase transaction is being placed  
20 using an authorized customer telephone line having line or caller identification.



1 Fig. 3 shows customer computer 10 submitting a purchase transaction  
2 authorization request to the bank computer. This is preferably done directly with  
3 the bank. Alternatively, it can be done via relay by the merchant computer.

4 In the preferred versions of the invention, the bank computer 30 responds  
5 or precedes the customer authorization request with an identification inquiry. This  
6 can use one or more of the verification or authentication parameters or other  
7 identification means. In general, the larger the number of verification or  
8 authentication parameters considered by the bank in the identification inquiry, then  
9 the reliability of the inquiry tends to improve. Typically, the identification inquiry will  
10 use verification of customer account verification information. For example, the user  
11 personal identification and customer computer identification information associated  
12 with the customer account would be verified. Also, the telephone line caller  
13 identification may be used to verify the caller identification relative to caller  
14 identification information kept re the associated customer account. This can be to  
15 verify to customer account information, or additionally or alternatively in an  
16 authentication mode. Other verification parameters may also be used.

17 The bank verification analysis or analyses can be the determinative factors  
18 in leading to a bank decision whether to validate the purchase transaction. It is  
19 also possible to combine one or more verification analyses with one or more  
20 authentication analyses as indicated in this document.



1 In performing validation analyses, the bank can also employ verification or  
2 authentication of one or more verification or authentication parameters used in  
3 connection with a merchant account set up with the bank. The same or different  
4 verification or authentication parameters may be used with the merchant as are  
5 described with respect to verification and authentication of the customer and user  
6 as described herein.

#### 7 **4.5.12 Customer Account Authentication Information**

8 The customer account information kept by or for the bank preferably includes  
9 customer account authentication information. The customer account authentication  
10 information can include one or more or various selected combinations of the  
11 following types of information or their equivalents.

12 One authentication parameter is the shipping or delivery address as  
13 discussed above. By performing an authentication process determining the  
14 authenticity of one or more of the customer authorized delivery addresses, and  
15 then verifying a delivery address of a purchase order, the bank can help assure  
16 that the purchase transaction includes goods or services which are being provided  
17 to a customer at it's authorized and authenticated address.

18 Another authentication parameter is customer computer identification  
19 information as discussed above. By performing an authentication process using  
20 customer computer identification information at the bank and customer computer,



1 Other types or forms of customer account information can also be used as  
2 authentication information used by the bank in making one or more authentication  
3 analyses as part of the bank's process in considering and determining whether a  
4 customer account should be set up or a purchase transaction should be validated  
5 or invalidated. Authentication processes used during setup are termed setup  
6 authentication, and authentication processes used during transaction validation are  
7 termed transaction authentication.

8 The one or more authentication analyses performed by the bank in  
9 processing a purchase transaction validation request preferably employ information  
10 which is obtained from the customer computer. This is advantageously done by  
11 placing the bank computer 30 and customer computer 10 into active  
12 communication with one another. This can be most easily done using the internet  
13 as illustrated in Fig. 3. It can also be done using other alternative communications  
14 vehicles.

15 Fig. 3 shows the customer computer 10 submitting an authorization request  
16 to the bank computer. This is preferably done in a linear communications  
17 relationship connecting the customer with the bank without involvement of the  
18 merchant. Alternatively, it can be done via a relay communications relationship  
19 through the merchant computer.

1 In the most preferred versions of the invention, the bank computer 30  
2 responds to the customer validation and authorization request with an identification  
3 inquiry. This can use one or more of the validation and/or authentication  
4 parameters. The larger the number of parameters considered by the bank in the  
5 identification inquiry, then the reliability of the inquiry tends to improve.

6 The bank validation analysis or analyses can be the determinative factor or  
7 factors in leading to a bank decision whether to validate the purchase transaction.  
8 It is also possible to combine one or more validation and/or authentication analyses  
9 with one or more other verification analyses as indicated elsewhere in this  
10 document.

11 In performing validation analyses, the bank can also employ verification  
12 and/or authentication of one or more parameters associated with the involved  
13 merchant. Such merchant account parameters are used in connection with a  
14 merchant account which is also set up with the bank. The same or different  
15 authentication or verification parameters may be used with the merchant as are  
16 described with respect to verification and/or authentication of the customer and  
17 user as described herein.

#### 18 **4.6 Customer Account Setup At Customer Location**

19 In addition to the customer account setup at the bank, there is also  
20 preferably setup at the customer location. The customer computer may be



1 of codes which are written at different times. A further alternative is that the code  
2 placed on the customer computer for identification by the bank can be written in  
3 plural sessions and/or repeatedly. A further alternative is to rewrite the computer  
4 identification in part or in whole during each transaction.

5 A still further alternative is to write identification coding each time the  
6 customer computer is used with the bank to provide a historical series that cannot  
7 be reproduced by interception of any one communication. The computer  
8 identification may be subject to processing by specific use programming written  
9 onto the user's computer, such as by the bank during setup. The programming  
10 may include a code key which is static or variable, such as variable with time or  
11 with customer, bank or other transaction history.

12 The customer computer identification may also be subject to processing by  
13 the bank computer, and such may include a code key which is static or variable,  
14 such as variable with time or with customer, bank or other transaction history. Still  
15 further, the customer computer identification may be subject to combined  
16 processing by both the customer computer programming and the bank computer  
17 programming, and such may include a code key which is static or variable, such  
18 as variable with time or with customer, bank or other transaction history. A variety  
19 of customer computer identification techniques can be used as may now be known  
20 or using new technology hereafter developed.

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1 It is also contemplated that the customer computer 10 will be provided with  
2 software which facilitates or is required to allow communication between the  
3 customer computer 10 and the bank computer 30 to selectively allow the customer  
4 computer identification processing steps to be performed in setting up the  
5 customer computer. Such software may also be used in conducting purchasing  
6 transactions involving the bank and customer.

7 Another feature which may be allowed is the ability for a customer to transfer  
8 cookies or other customer computer identification tools between one customer  
9 computer and another customer computer. This would only be permitted if the  
10 bank and customer programming so provides. If such is allowed, then the  
11 customer computer identification tools may be communicated between the two  
12 customer computers in several different ways; such as by direct wiring, or by email  
13 from the first to the second authorized customer computer.

14 A further alternative set up parameter is user personal location information  
15 or computer location information as discussed above. By performing locational  
16 verification or authentication analysis, the bank can help assure that the set up  
17 information or purchase transaction is being placed by an authorized computer or  
18 authorized user located at a location of record for the particular customer account  
19 being used. Implementation of this additional parameter or parameters for  
20 verification or authentication may be limited to certain types of computers having

1 GPS units therein, or computers could potentially be retrofitted with such GPS or  
2 other locational indicators, which preferably work on a real time basis.

3 The customer computer software may also provide the customer and  
4 associated users with various account management and utility features. Account  
5 management features may include allowing the customer to perform functions such  
6 as monitoring the purchase transactions made to the customer's account and  
7 monitoring payments made by the customer to pay the bank for customer charge  
8 transactions made. The utility features may also act as the means for allowing or  
9 controlling transmission of customer computer identification information between  
10 first and second customer computers.

11 Such programming may also advantageously have other capabilities and  
12 features which allow the customer and authorized users of the customer to use the  
13 account. Although such customer computer interface software may allow some  
14 modifications and information gathering, the preferred processes according to the  
15 invention may require in some implementations that setting up or changing of key  
16 or all customer account information fields occur using specific communications  
17 vehicles or modes. For example, changing (editing, adding or deleting) of  
18 customer account information fields may only be allowed by direct, non-internet  
19 communication. Further, account information such as authorized delivery  
20 addresses, changes to personal identification codes, changing telephone caller



1 identification information kept by the bank, user personal identification or other  
2 account information may be modified only by non-internet communication. These  
3 setup or account information modification processes are preferably done using a  
4 non-internet vehicle of communications which can preferably be authenticated by  
5 the bank prior to implementing the requested information. For example, by  
6 telephone communication over a telephone line having telephone caller  
7 identification which matches and is an authorized customer phone line. Such fields  
8 may also require voice communication between authorized representatives of the  
9 customer and the bank.

#### 10 **4.7 Exemplary Setting Up of Customer Account**

11 In one form of the invention a customer may initiate setup of a customer  
12 account with the bank. This can be done in various ways. For example, a  
13 customer may telephone the bank and request that the bank set up an account  
14 according to this invention. The customer could provide some or all of the  
15 customer-originated information indicated in the description given in this document.  
16 For example, name of customer, customer billing address, customer phone  
17 number, customer social security number, customer tax identification information,  
18 customer driver's license number, customer email address, customer authorized  
19 user identification codes, and other pertinent forms and fields of customer account

1 information may be singularly or in combination provided in one or more modes or  
2 vehicles of communication and in one or more sessions.

3 The preferred methods for setting up the customer also preferably include  
4 authenticating one or more of the fields of customer account information by an  
5 independent authentication procedure or procedures. For example, one  
6 authenticating process would be for the bank to require that the customer provide  
7 some or all fields of the customer account information via a telephone line having  
8 telephone caller identification information available that matches the customer  
9 setting up the account. This matching for authentication may require that the  
10 named telephone owner as indicated by telephone company caller identification  
11 information be the same as the information supplied by the customer.

12 Another example of independent authentication information may include  
13 alternative or additional third party information made available by credit services  
14 or other companies having credit information or serving as credit references.  
15 Examples of such authenticating analysis would be to verify that one or more of  
16 the customer-supplied data fields match independent authentication information.  
17 Information such as customer name, account billing address, home address, home  
18 telephone number, social security number and other information given by the  
19 customer in setting up the account would be compared to the authentication  
20 information. Matched information of this type which corresponds with comparable

1 customer information provided by the credit reporting agency or other third-party  
2 source of authentication information will provide an indication of authenticity during  
3 the customer account setup procedure.

4 Another preferred authentication procedure may include utilization of  
5 locational information for the user, customer computer or both. Setup can be  
6 made more reliable if third party location information confirms GPS or other  
7 locational information provided by the customer user, computer or both at the time  
8 of setup.

9 Some preferred setup methods according to the invention also include plural  
10 authenticating procedures. In some forms of the invention, the new customer  
11 account is further subjected to secondary authentication procedures after the bank  
12 has performed at least one initial authentication test which confirms the authenticity  
13 of the new customer account and demonstrates reliability of at least one field of  
14 customer account information which is a verification parameter. Then the bank  
15 may instruct the customer to establish a data communications linkage with the  
16 bank to allow the bank to provide computer identification information to the  
17 customer computer. Such communications sessions can also be used to load  
18 customer and user interface software which facilitates the use of the customer  
19 account by authorized users of the customer. Such interface software may also  
20 play a role in facilitating the bank's computer identification inquiry and provide on-

1 line verification or authentication of the customer computer and authorized user  
2 during purchase transactions.

3 The setting up of the customer computer and user, and the setting up of the  
4 customer account information held by the bank may include establishing data  
5 communications between the customer and bank using at least one session where  
6 a non-internet data communications vehicle is employed. For example, the bank  
7 may during the setup process instruct the customer to establish direct modem  
8 communications with the bank to download the interface software and provide the  
9 customer computer with a bank identifiable authentication code or codes and any  
10 encryption software. The processes may require a single non-internet  
11 communications session or plural sessions whereby the computer identification  
12 information provided to the customer computer may be expanded, replicated,  
13 rendered more encoded, or encrypted using a single or plural encryption  
14 techniques.

#### 15 **4.8 Customer Account Activation**

16 Preferred methods according to this invention further include activating a  
17 customer account. The customer account is most preferably activated after the  
18 bank has received some or all of the customer account information. It is also  
19 advantageous that the customer account be activated after the bank has performed  
20 at least one setup authentication process deemed appropriate by the bank

1 according to the banks security policies. For example, receiving setup information  
2 from a new customer using a caller identification telephone line that indicates the  
3 customer is authentic may by bank policy be sufficient authentication for activation  
4 of the account. Alternatively, more fields or other fields can be used in a setup  
5 authentication analysis.

6 It is also possible that the setup authentication may proceed in a progressive  
7 manner. After an initial contact and at least one setup authentication analysis, the  
8 bank may provide limited utilization, such as a small credit limit. The credit limit  
9 may be increased after additional authentication procedures have been performed  
10 successfully. The credit limit may also be increased after additional customer  
11 utilization establishes that the account is performing validly. Such progressive  
12 authentication will allow greater reliability as the customer history progresses in  
13 time or transaction number.

14 Activation may also advantageously include writing to the customer  
15 computer. The writing to the customer computer may include interface  
16 programming as discussed herein. It also typically will include writing, encoding  
17 or otherwise providing the customer computer with customer computer  
18 identification coding and programming needed.

19 In some of the preferred methods according to this invention, the activation  
20 of the customer account may also be made contingent upon successful testing.

Test communications can be conducted between the customer and bank. This can be in the nature of a test communication whereby the customer goes to a special web site operated by the bank and then proceeds to conduct a test internet purchase transaction. In such test transaction the user will be prompted for entry of the user's personal identification code. The user's actual name may be supplied as added verification but is not believed necessary since the customer's computer has been provided with bank accessible customer computer identification information. This can be assessed either before or after the user is prompted for the user's personal identification code.

In one optional form of the invention, the customer account setup and activation is abbreviated to facilitate immediate limited use of the account and this is further detailed hereinbelow in a separate section of this document.

#### **4.9 Merchant Account With Bank**

Methods according to preferred forms of the invention may also include setting up a merchant account with the bank. This is advantageous to further reduce the risk of fraud and to facilitate and speed payment to the merchant. It is also desirable in establishing a legal foundation between the bank and merchant whereby the merchant is prepared and willing to accept assurance of payment from the bank as contrasted with actual payment or funds transfer. The processing of

1 internet purchase transactions will be facilitated by prior setup of the merchant with  
2 the bank.

3 The process of setting up the merchant with the bank can vary significantly  
4 depending on policies of the bank and can vary with time to improve or modify  
5 processing and transaction of the internet purchases. The merchant can be set  
6 up using some or all of the same procedures described above in connection with  
7 preferred processes for setting up customers. Some modifications, additions  
8 and/or abbreviations may be in order depending upon the policies of the bank and  
9 the desired level of security relative to convenience.

10 One possible abbreviation which may be as acceptable is to not employ  
11 third-party transaction authentication of the merchant computer for reasons of  
12 processing speed or economy. If the bank has a merchant account set up with  
13 various fields of data and since the merchant is primarily looking to get paid, then  
14 it may be sufficient that the merchant receives assurance of payment and/or  
15 payment without the bank performing authentication of the merchant computer  
16 involved in the purchase transaction.

17 Authenticating and/or verifying the identification of the merchant computer  
18 is preferred in other implementations of the invention. For example, in some of  
19 the preferred methods the customer establishes communications with the  
20 merchant and then indicates to the merchant that payment will be assured and/or

1 made by the bank. Since the merchant is looking for payment assurance, it may  
2 be to the increased satisfaction of the merchant for the merchant to establish the  
3 third communications link directly with the bank. This approach may improve the  
4 confidence that the party contacted by the merchant in seeking transaction  
5 authorization is in fact the bank. The bank then may perform an authentication  
6 process relative to the merchant which is similar, the same, or employing one or  
7 more of the processes, aspects and features described hereinabove in connection  
8 with the bank identifying, verifying or authenticating the customer. Accordingly,  
9 any, all or various combinations of authentication procedures and features may be  
10 used by the bank, including those used to authenticate the merchant's computer.

11 Alternatively, the bank may choose to more simply verify the merchant  
12 computer identification with merchant account verification information kept by the  
13 bank. This can be done without performing additional authentication analysis, or  
14 authentication analyses which utilizes third party information or other independent  
15 authenticating information.

16 The description given hereinabove concerning the bank and customer  
17 relationship thus is applied by reference to describe the possible use of some or  
18 all of the authentication procedures and/or various verification procedures  
19 described in connection with the customer account for use in considering the setup



1 of the merchant and whether a transaction being analyzed by the bank should be  
2 validated and payment assured to the merchant.

3 It should also be understood that some forms of this invention may include  
4 internet purchase transactions where the merchant has not been previously set up  
5 with a merchant account with the bank. In such situations it may be desirable to  
6 set up the merchant during the course of the purchase transaction. This setup  
7 option during the course of the transaction may be either a partial setup or a  
8 complete setup depending upon the bank's policies and desire for security in  
9 validating and paying for internet purchases.

10 In other forms of the invention the merchant may not in a practical manner  
11 be set up at all since the procedures may simply involve transfer or delivery of  
12 funds automatically after or at the time the transaction is validated and authorized  
13 by the bank. For example, the bank and merchant may be in communication and  
14 the merchant instructs payment to be sent by check to a stipulated address at  
15 which the merchant receives payments. Electronic transfer of funds may similarly  
16 be directed as the merchant and bank find acceptable. Other payment options are  
17 also potentially acceptable.

#### 18 **4.10 Merchant Account Setup at Merchant Location**

19 Depending on the degree of security desired, the setting up of the merchant  
20 account at the merchant computer may employ actions by the merchant and/or

1 bank similar to those described hereinabove with regard to setup of the customer  
2 account upon the customer's computer. Analogous or the same procedures may  
3 be used at or upon the merchant computer 20. Such description shall be applied  
4 by reference without being reiterated at this point in this document.

5 In some respects the setting up of the merchant computer may be tailored  
6 more specifically to the needs of the bank and merchant. For example, the  
7 merchant may be provided with merchant computer identification or not. This in  
8 turn may allow simplified software to be used on the merchant computer to speed  
9 order processing or provide other enhanced abilities or features. One or more of  
10 the above-explained customer setup techniques may be applied alone or in  
11 combinations for the setup of a merchant.

#### 12 **4.11 Merchant Account Activation**

13 The explanations provided above with regard to setting up and activating a  
14 customer account may also be employed in part or in whole with regard to  
15 activation of a merchant account. The description given herein is applied by  
16 reference to merchant account activation as described above to provide preferred  
17 forms of the invention.

18 The merchant account setup process and activation process may also be  
19 abbreviated or eliminated. For example, the merchant could be informed that it  
20 is not yet fully set up, but that a one-time transaction account is being established

1 in the merchant's name at the bank. The merchant can obtain payment as the  
2 merchant subsequently instructs the bank.

3 Alternatively, the bank could assure payment and communicate that  
4 payment in a desired form is being made to the merchant, for example, the  
5 assurance of payment may be communicated by the bank to the merchant along  
6 with an indication that the bank is sending payment. Such payment can be by  
7 check, electronic funds transfer or other suitable means. Payment effected by  
8 bank check payable to the order of the merchant illustrates that merchant account  
9 setup would not be an absolute requirement, although such is preferred under this  
10 invention.

11 In the most preferred forms of this invention the merchant would preferably  
12 be paid after the bank performs at least a minimal amount of merchant account  
13 setup and either or both verification and/or authentication of the merchant during  
14 both setup and in processing purchase transactions. This can be done analogous  
15 to the discussion given herein with regard to initial use by a new customer.

#### 16 **4.12 Order File Creation**

17 Preferred methods according to this invention include order file creation.  
18 The customer is principally involved in creating the order file. Key or principal  
19 aspects of the order file include: a) specifying the goods or services, or both,  
20 which the customer seeks to obtain using the merchant; and, b) specifying the

1 delivery or shipping address to which the goods are to be shipped or delivered,  
2 or at which the requested services are to be performed.

3 The order file will typically be assembled using ordering software which the  
4 merchant provides or makes available at the merchant's web site. Since  
5 conventional merchant order taking software requires a preliminary assessment  
6 of means for payment, this indicates the appropriateness of implementing modified  
7 order software when orders are to be paid using the bank and methods according  
8 to this invention. Preferably the modifications direct the order taking software into  
9 ancillary programming which is associated with the assurance of payment and  
10 payment processes described herein according to this invention.

11 Under some of the methods according to this invention, the customer  
12 accesses the merchant web site and then builds the order file by specifying the  
13 goods and services. The order file may also include the customer's name,  
14 although such is not strictly necessary. The essential fields in the order file are  
15 the goods and/or services and delivery address information. The merchant may  
16 elect to require more information, and typically the customer name or some other  
17 customer identifier will be used to increase reliability of the ordering process. Also  
18 desirable is telephone or email contact information for the customer and user  
19 representing the customer.





1 The order file may alternatively be built in one or more order file building  
2 sessions involving one or more communications linkages via the internet between  
3 the customer and merchant. The order file may be saved and then retrieved for  
4 later editing and placement of the order.

#### 5 **4.13 Communicating Between the Customer and Merchant**

6 In methods according to the invention the customer establishes  
7 communication via the internet with the merchant. The mode of communication  
8 via the internet may use any acceptable protocol or security precautions now  
9 known or hereafter developed. The mode of communication can be encrypted or  
10 use other secure network procedures. A variety of communications options arise  
11 and are possible because the customer is advantageously not transmitting  
12 sensitive information, such as the account number and expiration date coupled  
13 with account name.

14 In alternative forms of the invention, the customer may initiate the purchase  
15 transaction by contacting the bank and providing an indication that an order is  
16 planned. Thereafter, the merchant may be contacted. This can occur directly  
17 between the customer and merchant, or using the bank as an intermediary.

#### 18 **4.14 Order Placement**

19 Methods according to this invention also include placement of the  
20 customer's order with the merchant. This is most frequently done by

1 communications linkage between the customer and merchant computers, such as  
2 illustrated in Fig. 3. The placing of the order will typically occur shortly after the  
3 customer has assembled the requisite information in the order file as required by  
4 the merchant. This may be modified for orders being paid by the bank in  
5 accordance with this invention.

6 Placement of the order will preferably entail specification by the customer  
7 that the means of payment is via the bank. The merchant therefore looks to the  
8 bank for assurance of payment and/or payment.

9 In alternative forms of the invention, the customer may contact the bank and  
10 build the order file and/or place the order via the bank's computer. The bank can  
11 then assure payment to the merchant in the same or a separate communication  
12 from the communication including placing or confirming the customer order.

13 In either of the above alternatives, the customer account number is not  
14 communicated to the merchant. Also in such alternatives, the customer's  
15 communication with the bank does not require providing information which is  
16 sufficient to allow an intercepting party to place orders which charge against the  
17 customer's account. This should be contrasted to the current practices explained  
18 above which provide such information and require it to be relayed, usually multiple  
19 times.



#### **4.15 Communicating Between Customer and Bank**

Preferred methods according to the invention also include communicating between the customer and bank whereby the customer submits a request for bank authorization, and for the bank to assure payment and/or make payment to the merchant. Fig. 3 illustrates an internet communications linkage between the customer computer 10 and the bank computer 30. This is done via customer internet service 12, internet 15 and the bank internet service 28.

In alternative systems and methods the customer computer 10 may be directly connected via modem (not illustrated) to the bank computer 30. Other communications vehicles and various communications routes can be employed to provide data communications between the customer and bank.

In some of the methods according to this invention the customer communicates with the bank in non-internet forms of communication. This includes the direct modem connection explained above. It is also possible to employ direct, in person communications between a customer and a representative of the bank. Further it is possible to use telephone voice lines, fax communication or other non-internet communications vehicles. This is particularly advantageous in the setup phase, but also can apply to editing or other changes to the setup information.

1 It may also be desirable to use non-internet forms of communication  
2 between the customer and bank in the course of a purchase transaction. The  
3 customer or bank can initiate the communication, which is preferably a data  
4 processing communications vehicle. Data concerning the proposed order and  
5 other data passed between the customer and bank are communicated to perform  
6 the methods according to this invention.

#### 7 **4.15.1 Initiation**

8 The communications linkage between the customer and bank computers can  
9 result from customer initiation or bank initiation. This can be done either before  
10 or after the order file is created and/or placed. In one preferred version of the  
11 invention, the user representing a customer first builds an order file at the  
12 merchant's web site. Then the customer indicates while in communication with the  
13 merchant via the internet, that the customer wishes to pay using the bank. This  
14 is easily provided by having an internet link between the merchant's web site and  
15 the bank computer 30. This can be part of the merchant setup with the bank.

16 The selection of the bank using the merchant web site link or other suitable  
17 means initiates a data communications linkage between the customer and bank.  
18 This is preferably a direct connection between the customer and bank.

19 In alternative methods according to the invention, the customer may indicate  
20 while at the merchant web site that the customer wants to pay using the bank.

1 Instead of the customer initiating the communications linkage with the bank, the  
2 customer's placement of the order with the merchant can result in a  
3 communication between the merchant and bank. The merchant communicates  
4 with the bank and indicates that the customer has placed an order that includes  
5 a request that the bank is to be used to assure payment and/or make payment for  
6 the customer order. The merchant can communicate relevant information to the  
7 bank indicating the transaction control number, customer identification, and  
8 amount of charges associated with the order.

9 In response to the merchant's communication with the bank, the bank  
10 initiates a communications linkage with the customer. The customer computer  
11 can be contacted via the internet or by other data processing communications  
12 vehicles.

13 The merchant information supplied to the bank concerning the customer  
14 order includes transaction identification which is also provided to the customer  
15 computer. When the bank computer establishes communication with the customer  
16 computer, then the bank goes through an identification inquiry and verification  
17 and/or authentication processes to determine that the bank has contacted the  
18 proper customer user and proper customer computer which is authorized to be  
19 involved in the identified transaction with the merchant.

#### **4.15.2 Bank Identification Inquiry**

After communication has been established between the bank and customer, the bank performs a bank identification inquiry. The inquiring action may involve a number of different identification procedures. These identification procedures may be the same as described above using verification of customer account information and/or authentication of the customer computer and user using one or more of the indicated analyses.

A preferred identification inquiry performed by the bank relative to the customer utilizes the customer computer identification setup on the customer computer. The bank computer performs an identification inquiry which is preferably in an encoded form. The customer computer must provide a satisfactory response identifying the customer computer to the bank computer. If proper identification is not achieved then the communications session is terminated.

If proper identification of the customer computer is achieved, then the bank further analyzes to determine whether the personal identification information given by the customer computer user is an authorized user. This is done by verifying that the personal identification code given by the user is an authorized user personal identification code. It can alternatively or additionally employ other

1 inquiries using other fields of customer and user information for verification or  
2 authentication.

3 The above identification analyses are used to properly associate in the  
4 banks records, the customer account and user for further processing of the  
5 communication and associated payment authorization request. The above-  
6 described identification procedures may also act as a portion of the verification  
7 analyses used in performing validity analyses, or as part of one or more  
8 authentication analyses, which may include just these considerations or may be  
9 combined with additional analyses to provide additional reliability for the  
10 authentication analysis and validation decision. The additional parameters may  
11 be any of those described elsewhere herein in connection with verification or  
12 authentication of the setup of the customer account and processing of the  
13 purchase authorization request, or other similar parameters.

#### 14 **4.15.3 Bank Authentication Inquiry**

15 The communications between the customer and bank may also  
16 advantageously include an authentication inquiry by the bank to reliably determine  
17 whether the customer computer 10 is an authorized customer computer and that  
18 the user is an authorized user for such customer account. The authentication  
19 procedures explained above can also be applied during setup or a purchasing  
20 transaction validation analysis according to the invention.

1 The authentication procedures seek to determine that the customer  
2 computer and user are an authorized customer computer and an authorized user  
3 for the customer account. The authenticity analysis can use third party information  
4 as part of the authenticity analysis, or the authentication can entail only verification  
5 by matching one or more fields of customer account information.

#### 6 **4.16 Communicating Between Bank and Merchant**

7 Preferred methods according to the invention may also include  
8 communicating between the bank and merchant. In such communications the  
9 merchant is seeking assurance of payment from the bank, so that the customer  
10 order can be fully processed. The customer or merchant may submit a request  
11 seeking bank authorization, and for the bank to assure payment and/or make  
12 payment to the merchant. Fig. 3 illustrates an internet communications linkage  
13 between the merchant computer 20 and the bank computer 30. This is done via  
14 merchant internet service 18, internet 15 and the bank internet service 28.

15 In alternative systems and methods the merchant computer 10 may be  
16 directly connected via modem (not illustrated) to the bank computer 30. Other  
17 communications vehicles and various communications routes can be employed to  
18 provide data communications between the merchant and bank.

19 In some of the methods according to this invention the merchant may  
20 communicate with the bank using non-internet forms of communication. This

1 includes the direct modem connection explained above. It is also possible to  
2 employ other direct communications between a merchant and the bank or a  
3 representative of the bank. Furthermore, it is possible to use telephone voice  
4 lines, fax communication or other non-internet communications vehicles. This is  
5 particularly advantageous in the setup phase, but also can apply to editing of  
6 setup information.

7 In most purchase transaction processing the merchant and bank will  
8 communicate via the internet. It may alternatively be desirable to use non-internet  
9 forms of communication between the merchant and bank in the course of a  
10 purchase transaction. The customer or bank can initiate the communication,  
11 which is preferably a data processing communications vehicle. Data concerning  
12 the proposed order and other data passed between the bank and merchant are  
13 communicated to perform the methods according to this invention.

#### 14 **4.16.1 Merchant-Bank Communications Initiation**

15 The communications linkage between the merchant and bank computers  
16 can result from merchant initiation or bank initiation. This can be done either  
17 before or after the order file is created and/or placed. In one preferred version of  
18 the invention, the user representing a customer first builds an order file at the  
19 merchant's web site. Then the customer indicates while in communication with the  
20 merchant via the internet, that the customer wishes to pay using the bank. This

1 is easily provided by having an internet link between the merchant's web site and  
2 the bank computer 30. This can be part of the merchant setup with the bank.

3 The selection of the bank using the merchant web site link or other suitable  
4 means initiates a data communications linkage between the customer and bank.  
5 This is preferably a direct connection between the customer and bank. Invitation  
6 of merchant bank communications may vary dependent upon the chosen  
7 communications approach between the customer and merchant.

8 In alternative methods according to the invention, the customer may indicate  
9 while at the merchant web site that the customer wants to pay using bank.  
10 Instead of the customer initiating the communications linkage with the bank, the  
11 customer's placement of the order with the merchant can result in communications  
12 being initiated between the merchant and bank. In one such procedure, The  
13 merchant communicates with the bank and indicates that the customer has placed  
14 an order that includes a request that bank is to be used to assure payment and/or  
15 make payment for the customer order. The merchant can communicate relevant  
16 information to the bank indicating the transaction control number, customer  
17 identification, amount of charges associated with the order, ordered goods or  
18 services or other information.

19 In response to the merchant's communication with the bank, the bank  
20 preferably initiates a communications linkage with the customer. The customer



1 computer 10 can be contacted via the internet or by other data processing  
2 communications vehicles.

3 The merchant information supplied to the bank concerning the customer  
4 order includes transaction identification which is also provided to the customer  
5 computer. When the bank computer establishes communication with the customer  
6 computer, then the bank goes through an identification inquiry and verification  
7 and/or authentication processes to determine that the bank has contacted the  
8 proper customer and proper customer computer which is involved in the identified  
9 transaction with the merchant.

#### 10 **4.16.2 Bank Identification Inquiry of Merchant**

11 A bank identification inquiry also is preferably used when the bank and  
12 merchant computers are in communication. This can be accomplished in the  
13 same manner as described with respect to the bank identification inquiry for  
14 communications with the customer.

#### 15 **4.16.3 Bank Authentication Inquiry of Merchant**

16 A bank authentication inquiry may also be used when the bank and  
17 merchant computers are in communication. This can be accomplished in the  
18 same manner as described with respect to the bank authentication inquiry for  
19 communications with the customer.

#### **4.17 Other Analyses by Bank for Validation of Transaction**

In addition to the analyses mentioned above with regard to identification, verification or authentication, it is also preferable that the bank perform one or more supplemental validation analyses. Examples of such supplemental transaction validation analyses include analyzing the available credit or available funds in the credit or debit account to be charged.

An additional area of analysis which can be employed is transaction frequency analysis. This type of analysis looks at the frequency of a customer's use and compares it with a predetermined range or the historical frequency of use. The historical frequency can be determined over any desired prior period or periods of use of the customer account. If the frequency of use is abnormal, then validation may be refused pending further investigation to determine if the transaction for which authorization is being sought is genuine or as a result of fraud or other abusive action by unauthorized users or customer impostors.

Another supplemental validation analysis is dollar amount of transaction. This analysis can look at the dollar value of a particular transaction to help determine abusive situations. For example, a set monetary amount can be used for a particular customer account as a trigger to invalidating the purchase transaction. Alternatively, the monetary trigger may be based on historical data

1 associated with a customer account or user. The historical data can be compiled  
2 over any desired period of time.

3 Determination of validity may employ a weak link conditional approach  
4 wherein certain factors are necessarily at or above a triggering limit, or within an  
5 acceptable range. If such is not found then the ruling by the bank is invalidity and  
6 the transaction is not authorized. It is also possible to use weighted factor  
7 analysis wherein one or more of the factors used to determine validity may be  
8 scaled relative to one or more other factors using fixed, predetermined or variable  
9 weight scaling factors.

#### 10 **4.18 Validation and Authorization of Transaction**

11 The bank receives a request for authorization to charge a customer account  
12 in connection with an internet purchase transaction. The request for authorization  
13 also serves as a request that the bank perform a validation analysis which is the  
14 basis of the decision whether to authorize the transaction and communicate  
15 assurance of payment to the merchant to the benefit of the customer account  
16 being charged.

17 The request for authorization and validation can be communicated by either  
18 the merchant or customer to the direction of the bank. This can be done in a  
19 variety of suitable ways; however, communication via the internet is contemplated  
20 to be the most expedient.

1 The validation analysis performed by the bank can include one or more of  
2 the various analyses which have been described herein. Validation analysis by  
3 the bank can also include additional analyses which the bank deems appropriate  
4 in determining whether the proposed internet purchase transaction will be  
5 completed using the bank as a payment assurer and payment agent in favor of the  
6 assured, merchant.

7 The validation analysis may include analysis of the merchant, analysis of the  
8 customer, analysis of the user, analysis of third party information, and analysis of  
9 historical or other customer account information. Other analyses can also be  
10 included.

11 The validation analysis results in either validation of the transaction,  
12 invalidation of the transaction, or some other response indicating need for  
13 additional analysis or added information.

#### 14 **4.19 Communication of Assurance of Payment**

15 If the validation analysis or additional authorization analyses performed by  
16 the bank result in a positive or valid result, then the bank communicates with the  
17 merchant and provides assurance of payment. Assurance of payment can be in  
18 various forms and formats. Acceptance of the assurance is facilitated by having  
19 the merchant set up with the bank as a participating merchant. In some forms the  
20 assurance of payment is communicated by the bank to the merchant via the

1 internet. This can most effectively be accomplished by merely including the  
2 transaction control number, the amount authorized and an indication that the  
3 merchant's account with the bank will be credited in due course for the authorized  
4 amount.

5 It is also possible to send the authorization notice and assurance of payment  
6 to the merchant along with key information which has been verified. This may be  
7 transaction purchase amount, confirmation of the goods or services, and/or  
8 delivery address information which has been verified against authorized delivery  
9 addresses for the customer account involved. The bank may make payment  
10 contingent upon or subject to revocation, if the merchant ships in a manner which  
11 is inconsistent with the key information provided in the bank assurance of  
12 payment, or in a separate communication of bank authorization. In such later  
13 case the assurance of payment may be made in a separate communication  
14 between the bank and merchant.

#### 15 **4.20 Shipment or Delivery**

16 One key piece of transaction information which can be used in the bank  
17 transaction authorization or assurance of payment is the delivery address. The  
18 delivery address may be specified by the bank and shipment to any different  
19 address may result in refusal to pay or revocation of payment. The merchant is  
20 obligated in such forms of the invention to follow the bank instructions containing

1 a delivery authorization address communicated by the bank to the merchant. This  
2 delivery authorization address may be the only address provided, or it may be a  
3 confirmation of an address provided by the customer in building the order file. Still  
4 further, it is possible for the order file to be built by contributions from both the  
5 customer and bank with the bank supplying key information, such as the delivery  
6 address using an authorized delivery address set up with the bank for the proper  
7 customer account and user.

8 A further alternative is that the merchant submits the planned delivery  
9 address with the request for authorization and the bank confirms after verification  
10 against the customer account that shipment to the address indicated in the request  
11 for authorization is an authorized delivery address to which the merchant may  
12 direct shipment.

13 It is further possible to utilize the locational identification information from a  
14 GPS unit to additionally analyze the apparent validity of a transaction. This can  
15 be done by comparing the indicated user or computer GPS or other location  
16 information against the shipping address. This check will not be useful in all  
17 orders because of the variations in shipment which may be requested by a  
18 customer. However, if the ordering computer is at the delivery address additional  
19 indication of the validity of the order is provided.

1 The location information may also be used merely to verify that the ordering  
2 user or computer is located at a customer authorized location. Additional analyses  
3 using the user or computer location information will also be possible.

#### 4 **4.21 Payment by Bank to Merchant**

5 Payment by the bank to the merchant is most efficiently effected by crediting  
6 a previously set up merchant account with the bank. Alternatively, the bank can  
7 effect payment by sending checks, wire transfers, electronic funds transfers, or  
8 other known or hereafter developed methods of payment. The payment is  
9 preferably made concurrent with or after debiting the customer account to which  
10 the purchase transaction charges are to be made. Alternatively, the bank may  
11 effect payment and then charge the customer.

#### 12 **4.22 Billing or Charging of Customer**

13 The customer is billed in a suitable fashion for the charges which are  
14 associated with the customer's internet purchase transactions. In the case of a  
15 credit account, the charge will be posted to the customer's account and then  
16 demand for payment is made by the bank to the customer. This can be done in  
17 a variety of ways, such as by billing the customer for the charges using a printed  
18 bill format.

19 Alternatively, the customer may have an account which is prepaid and has  
20 funds available for debiting to cover the purchase transaction charges. These

1 funds can then be credited to the account of the merchant, either directly or using  
2 one or more intermediaries, such as the bank.

3 It is also possible that the customer may be charged and that payment is  
4 effected by the customer to the bank using another institution or payment agent  
5 which is billed using paper or electronic documentation. The payment agent then  
6 pays in behalf of the customer and the arrangements between the agent and  
7 customer may be accounts of various types and requirements.

#### 8 **4.23 Further Explanation of Methods According to the Invention**

9 Fig. 4 further details actions taken by the customer, merchant and bank  
10 using a preferred process and preferred configuration, such as the configuration  
11 of Fig. 3. Step 110 illustrates the customer accessing the merchant internet site  
12 for purposes of gaining information, building an order file, and/or placing an order.

13 Step 120 is the customer building an order file in preparation for placing an  
14 order. The order file being built by the customer may identify the customer or it  
15 may be identified solely by an order tracking number assigned by the merchant.  
16 The order file also includes identification of the items which the customer wishes  
17 to obtain. Additionally, the order file may indicate that the customer has selected  
18 to have payment provided by bank 30. However, no account number, account  
19 address, or other sensitive information is required to build the order file using the  
20 novel methods. Instead, the customer order is identified by the merchant and the



1 desired goods and services are identified in the order file. Depending upon the  
2 specific embodiment of the invention employed, other information may be included  
3 in the order file.

4 Step 130 represents the customer placing the order with the merchant. The  
5 merchant can perform any desired initial processing (not illustrated), such as to  
6 determine if the order is sufficiently defined and/or complete. The set of order  
7 information fields required may indicate that the customer intends to pay using  
8 bank 30.

9 Step 140 represents the customer contacting the bank. This can be done  
10 via the internet or otherwise as explained herein. Upon customer communication  
11 with the bank, the customer submits to the bank identification inquiry in step 150.  
12 The bank then analyzes the customer for authenticity using one or more of the  
13 authentication or verification procedures explained herein.

14 Fig. 4 also shows that the bank may in step 170 additionally analyze the  
15 transaction relative to the customer account for a monetary limit. Other additional  
16 analyses as explained herein may also be performed prior to validating or  
17 invalidating the purchase transaction and responding to the request for  
18 authorization.

19 In the case where the transaction is validated, then step 180 illustrates that  
20 in response to the request for authorization, the bank contacts the merchant and

1 assures payment. The bank may provide delivery or shipping instructions, or  
2 confirm instructions already given by the customer, when the bank is assuring the  
3 merchant of payment.

4 Thereafter the bank sends payment to the merchant and bills the customer  
5 for the charges made in the transaction. A transaction processing fee may be  
6 charged to either or both the merchant and/or customer.

#### 7 **4.24 Fig. 5 - Illustration of Established Customer Transaction**

8 Fig. 5 illustrates a method according to the inventions. The customer  
9 computer monitor is shown as monitor 200. Displayed information is included on  
10 the monitor as shown. This advantageously includes screen order file data  
11 representatively shown as order data 201. Order data 201 is used and forms part  
12 or all of the order file for this order.

13 After the order data 201 has been selected by the customer, then the  
14 operational command icons for save 202 and place order 203 are displayed to  
15 allow the user to save the order file for later editing or submission. If the user is  
16 satisfied with the order data and wants to place the order, then the order  
17 placement icon 203 is clicked or otherwise operated to place the order with the  
18 merchant or bank.

1 The display on monitor 200 also shows two traditional charge account  
2 options labeled as operational icons 205 and 206. A user may click upon either  
3 of these to choose a prior art purchasing process such as described above.

4 Alternatively, the user is given the option of clicking on the bank icon 208  
5 which activates one of several different processes according to this invention.

6 Fig.5 shows a displayed message 210 indicating that the customer is an  
7 approved purchaser. The identification inquiry or inquiries explained elsewhere  
8 herein are being performed. The computer identification is conveniently referred  
9 to as an electronic thumb print. If this authentication of the customer computer is  
10 successfully completed, then the display indicates that the order approval process  
11 automatically starts.

12 Display message 220 indicates that the computer identification inquiry was  
13 successfully completed. Now the displayed message prompts the user to enter  
14 the personal identification code associated with this user and customer account.  
15 The user then provides the code in the squares or in another suitable manner.  
16 Entering this information on the customer/user computer starts the process again  
17 and the personal identification process is undertaken. This is advantageously  
18 done by verifying the personal identification code field of the bank's customer  
19 record against the entered information.

1 Message display 230 indicates success in the prior step and the user is now  
2 being prompted to indicate whether the order is to be shipped to the user's home  
3 or business address. After the desired address is indicated, such as by clicking  
4 on screen, then the submit order command is activated and the validation and  
5 authorization procedures explained herein can be performed in various manners  
6 as described. The displayed message 240 indicates the order has been  
7 approved. The user has thus completed the interactive portion with his or her  
8 customer computer.

#### 9 **4.25 Figs. 6 & 7 - Illustration of New Customer Transaction**

10 Fig. 6 shows another monitor 250 having a customer/user computer screen  
11 display similar to that described above with regard to monitor 200. After providing  
12 the needed order data, the user clicks on the bank icon 208 to start interaction  
13 with the bank. The bank seeks to find computer identification information from the  
14 user's computer but is unsuccessful and thus screen display 260 is presented.  
15 Displayed message 260 welcomes the potential new customer and queries the  
16 user whether he or she wants to open a new account with the bank. The user  
17 clicks on the "yes" operation control icon 261.

18 A subsequent screen display message 270 is presented in reaction to the  
19 yes command. The user is prompted to contact the bank using a specified voice  
20 telephone line. This is done to setup the customer account as variously described

1 herein. The user/customer then performs such a setup procedure. As illustrated  
2 in representative display screen message 280, the user/customer provides the  
3 indicated information by voice explanation. The customer also agrees to the  
4 account terms and conditions. The user is also advantageously provided with the  
5 personal identification code or codes needed during this setup telephone session.

6 Fig. 7 shows a further screen display message 300. This message is  
7 displayed after the user contacts the bank or merchant web site to complete setup  
8 of the customer account by activating the account. Message 300 indicates the  
9 various verification and authentication processes have been performed and setup  
10 has been approved. An alternative rejection (non-approval) display message is  
11 shown is display message 310.

12 The displayed message 300 may also show the credit limit assigned by the  
13 bank. If the user want to proceed with account activation, then the "activate  
14 account" screen icon is clicked. In the procedure illustrated by Figs. 6 and 7, the  
15 user has been given a personal identification code by telephone during the  
16 customer-bank setup telephone session. The user/customer then provides the  
17 requested number.

18 The user/customer then indicates that the activation process, as described  
19 herein, should be performed when the "activate account" icon is clicked by the  
20 user using the customer computer.

1 Message 330 indicates that the activation process preferably includes  
2 providing the customer computer with computer identification coding and  
3 programming as needed to act as an electronic thumbprint which can be read or  
4 otherwise decoded by the bank computer to verify or authenticate the computer  
5 in further transaction processing or account modification operations. This step can  
6 also be used to provide any needed customer interface programming.

7 Display message 340 indicates that the acceptance of the computer  
8 identification coding by the customer computer leads to a welcome message  
9 indicating that the customer account is activated. If the customer computer does  
10 not accept the coding and/or programming, then additional instructions (not shown)  
11 can be given.

12 Upon approval and activation of the customer account, the customer is then  
13 given an opportunity to continue with the initial order. The "yes" icon is clicked as  
14 screen display 370 indicates. A yes command leads to step 360 which prompts  
15 the user for the desired customer shipping address.

16 Screen display message 350 indicates that the order has been approved by  
17 the bank and is being further processed. Such further processing leads to the  
18 merchant also receiving approval according to the various methods described  
19 herein.

#### 4.26 Example A

This is one example of how the methods according to this invention can be carried out. In this example the customer and the merchant are already set up with the bank in accordance herewith. The customer contacts the merchant via the internet as described. The customer initiates communications with the merchant using a first communications link. The customer then builds the order file but does not include customer account information which is sufficient for obtaining payment, goods or services in a fraudulent transaction. Instead, the customer clicks on the bank icon set up on the merchant's web site and this links to the bank web site establishing an additional or second communications linkage therewith, advantageously using a distinct communications mode or vehicle.

The bank then performs a customer identity check such as by using bank encoded information written onto the customer computer. The bank analyzes the customer identity information and verifies that it is an active account. The user is prompted for his personal identification code and the user supplies such information. The bank verifies that the personal identification code is correct as an authorized user under the customer's account. If these factors are verified, then this serves as an authentication process indicating the authenticity of the user to use the particular customer account and authorized customer computer involved.

1 Further third party authentication is optionally provided by the bank  
2 performing an assessment of the caller identification information associated with  
3 the telephone line through which the customer is connected to the internet in the  
4 customer-bank communications linkage. The telephone line number information  
5 is verified against the related information contained in the bank's customer  
6 account information. If the caller identification information is verified, then  
7 additional authentication evidence is provided and the bank now completes the  
8 authentication analysis.

9 The customer computer then communicates to the bank computer  
10 information indicating the merchant being used in the purchase transaction. The  
11 amount to be charged to the customer for the goods and/or services are  
12 communicated to the bank. The bank then does a credit limit analysis for the  
13 customer account, and the amount requested for authorization may or may not be  
14 found acceptable.

15 The bank then establishes a third communications link with the merchant via  
16 the internet while the customer is in active or standby communication with the  
17 merchant. The bank performs any desired merchant identification inquiry, such  
18 as done with the customer. The bank also performs an authentication analysis by  
19 verifying that the merchant computer is an authorized merchant computer using  
20 the bank's merchant account verification information.



1 With the above steps performed the bank is now in a position to perform a  
2 validation analysis for the transaction. Since the merchant, customer and user  
3 identifications have been verified and the credit limit analysis has successfully  
4 been passed, then the bank determines that the transaction is valid.

5 The merchant, bank and customer are in this example engaged in a  
6 communications triad wherein each is communicating with the other two over the  
7 internet in an independent fashion.

8 The bank then communicates to both the merchant and customer that the  
9 purchase transaction has been authorized. The bank communicates assurance  
10 of payment to the merchant indicating that payment will be made to merchant's  
11 account with bank on the next business day. The merchant in many cases will  
12 accept the assurance of payment as sufficient for the merchant to proceed with  
13 shipment of the purchased goods or services.

14 The bank debits the customer account at or near the time the authorization  
15 is given. The bank also credits the merchant's account such as at nearly the  
16 same time or otherwise. The customer is subsequently billed for the transaction,  
17 such as on the next customer billing statement.

#### 18 **4.27 Example B**

19 In this example the customer and the merchant are already set up with the  
20 bank in accordance herewith. The customer contacts the merchant via the

internet as described. The customer initiates communications with the merchant using a first communications link. The customer then builds the order file but does not include customer account information sufficient to authorize goods, services or for receiving payment. Instead, the customer saves the order file with the merchant and maintains a record of the order file contents on the user's computer. The record of the order file includes merchant identification information, transaction identification, and an indication of the amount to be charged to the customer's account. The customer then discontinues communications with the merchant via the internet.

The customer thereafter initiates communications with the bank, such as via the internet. The user is prompted for his personal identification code and the user supplies such information. The bank performs the desired identification inquiry by comparing the user's personal identification code to the customer account information for this field. The bank also performs customer computer identification analysis using specially coded information contained on the user's authorized computer and GPS locational information. The bank then analyzes the customer identity information and verifies that it is an active account. The bank verifies that the personal identification code is correct as an authorized user under the customer's account.

1 The user's computer includes bank programming which has an encryption  
2 key which varies as a function of the information previously written to the  
3 customer's computer by the bank, the time and date, and the number of  
4 transactions conducted by the customer with the bank. The bank then  
5 authenticates the user and customer computer using such analyses. If these  
6 factors are successfully verified, then this serves as an authentication analysis  
7 indicating the authenticity of the user to use the customer account.

8 Further third party authentication is optionally provided by the bank  
9 performing an assessment of the caller identification information associated with  
10 the telephone line through which the customer is connected to the internet in the  
11 customer-bank communications linkage. The telephone line number information  
12 is verified against the related information contained in the bank's customer  
13 account information. If the caller identification information is verified, then  
14 additional authentication evidence is provided and the bank now has completed  
15 the authentication analysis of the user and customer account. This can also be  
16 enhanced by prompting the user and customer computers for location information.  
17 The user may be required to recite the address in the form of a street address or  
18 longitude and latitude coordinates based on GPS receiver location information.

19 The customer computer then communicates to the bank computer  
20 information indicating the merchant being used in the purchase transaction and

1 the transaction control number. The amount to be charged to the customer for the  
2 goods and/or services are also communicated to the bank. The bank then does  
3 a credit limit analysis for the customer account, and the amount requested for  
4 authorization is acceptable. The bank communicates to the user that the  
5 transaction is processing.

6 The bank then establishes a communications link with the merchant via the  
7 internet while the customer is in active or standby communications with the  
8 merchant. The bank performs any desired merchant identification inquiry, such  
9 as done with the customer. The bank also performs an authentication analysis by  
10 verifying that the merchant computer is an authorized merchant computer using  
11 the bank's merchant account computer identification verification information.

12 With the above steps performed the bank is now in a position to perform a  
13 validation analysis for the transaction. Since the merchant, customer and user  
14 identifications have been verified and the credit limit analysis has successfully  
15 been passed, then the bank determines that the transaction is valid.

16 The bank is simultaneously engaged with the merchant and customer but  
17 the customer and merchant are not in active communication. The bank then  
18 communicates to both the merchant and customer that the purchase transaction  
19 has been authorized. The bank communicates assurance of payment to the  
20 merchant indicating that payment will be made to merchant's account with bank

1 by the next business day. The merchant accepts the assurance of payment as  
2 sufficient for the merchant to proceed with shipment of the purchased goods.

3 The bank debits the customer account at the time the authorization is given.  
4 The bank also credits the merchant's account at nearly the same time. The  
5 customer is subsequently billed for the transaction on the next customer billing  
6 statement.

#### 7 **4.28 Example C**

8 In this example the customer and the merchant are already set up with the  
9 bank in accordance herewith. The customer contacts the merchant via the  
10 internet as described. The customer initiates communications with the merchant  
11 using a first communications link. The customer then builds the order file but does  
12 not include sensitive customer account information. Instead, the customer saves  
13 the order file with the merchant and maintains a record of the order file on the  
14 user's computer.

15 The record of the order file includes customer and merchant identification  
16 information, transaction identification, an indication of the amount to be charged  
17 to the customer's account, an indication that the bank is being used to assure  
18 payment, and other information specifying essential and desired key information  
19 for the order being placed. The customer then places the order with the merchant  
20 via the internet.

1 The merchant thereafter initiates communications with the bank, such as via  
2 the internet. Information concerning the order file is in part or in whole  
3 communicated to the bank along with a request for authorization.

4 The bank then initiates communication with the customer, such as via the  
5 internet. The user is prompted for his personal identification code and the user  
6 supplies such information. The bank performs the desired identification inquiry by  
7 comparing the user's personal identification code to the customer account  
8 information for this information field. The bank also performs customer computer  
9 identification analysis using specially coded information contained on the user's  
10 authorized computer. The bank then analyzes the customer identity information  
11 and verifies that it is an active account. The bank verifies that the personal  
12 identification code is correct as an authorized user under the customer's account.

13 The user's computer includes bank interface programming which has an  
14 encryption key which varies as a function of the information previously written to  
15 the customer's computer by the bank, the time and date, and the number of  
16 transactions conducted by the customer with the bank. The bank then  
17 authenticates the user and customer computer using such analyses. If these  
18 factors are successfully verified, then this serves as an authentication analysis  
19 indicating the authenticity of the user to use the customer account.

1 Further third party authentication is optionally provided by the bank  
2 performing an assessment of the caller identification information associated with  
3 the telephone line through which the customer is connected to the internet in the  
4 customer-bank communications linkage. The telephone line number information  
5 is verified against the related information contained in the bank's customer  
6 account information. If the caller identification information is verified, then  
7 additional authentication evidence is provided and the bank now has completed  
8 the authentication analysis of the user and customer account.

9 The customer computer then communicates to the bank computer  
10 information indicating the merchant being used in the purchase transaction and  
11 the transaction control number. The amount to be charged to the customer for the  
12 goods and/or services are also communicated to the bank. The bank then does  
13 a credit limit analysis for the customer account, and the amount requested for  
14 authorization is acceptable. The bank communicates to the user that the  
15 transaction is processing.

16 The bank then establishes a communications link with the merchant via the  
17 internet while the customer is in active or standby communication with the  
18 merchant. The bank performs any desired merchant identification inquiry, such  
19 as done with the customer. The bank also performs an authentication analysis by

1 verifying that the merchant computer is an authorized merchant computer using  
2 the bank's merchant account verification information.

3 With the above steps performed the bank is now in a position to perform a  
4 validation analysis for the transaction. Since the merchant, customer and user  
5 identifications have been verified and the credit limit analysis has successfully  
6 been passed, then the bank determines that the transaction is valid.

7 The bank is simultaneously engaged with the merchant and customer but  
8 the customer and merchant are no longer in active communication. The bank then  
9 communicates to both the merchant and customer that the purchase transaction  
10 has been authorized. The bank communicates assurance of payment to the  
11 merchant indicating that payment will be made to merchant's account with bank  
12 by the next business day. The merchant accepts the assurance of payment as  
13 sufficient for the merchant to proceed with shipment of the purchased goods.

14 The bank debits the customer account at the time the authorization is given.  
15 The bank also credits the merchant's account at nearly the same time. The  
16 customer is subsequently billed for the transaction on the next billing statement.

#### 17 **4.29 Alternative Representation of Customer by Purchasing Agent**

18 The methods according hereto can also be practiced wherein the customer  
19 is represented by a buying agent. The buying agent can be a more traditional  
20 type buying agent whereby the customer appoints and authorizes the buying



1 agent. Alternatively, the buying agent may be a computer service vested with  
2 various techniques for securing the most favorable purchasing on behalf of the  
3 customer.

#### 4 **4.30 Alternative Representation of Merchant by Selling Agent**

5 The methods according hereto can also be practiced wherein the merchant  
6 is represented by a selling agent. The selling agent can be a more traditional type  
7 selling agent whereby the customer appoints and effectively authorizes the selling  
8 agent. Alternatively, the selling agent may be a computer service vested with  
9 various techniques for securing the most favorable selling price in behalf of the  
10 merchant.

#### 11 **4.31 Bank Functions May be Divided or Substituted**

12 The description given herein is made as if the bank is a single legal entity.  
13 However, the functions of the bank may instead be performed by an agent or  
14 various agents which assume some or all of the bank's responsibilities and  
15 functions in accordance with the inventions. For example, the bank may have  
16 several subsidiary or sister corporations which perform some or all of the functions  
17 instead of or in support of the bank's performance of the methods according  
18 hereto.

#### **4.32 Alternative Quick Setup and Related Purchase Transaction**

In still another alternative method according to the invention a potential customer is both setup and given credit in a series of steps preferably performed as explained below.

The procedure applies to certain situations wherein a new customer is more quickly set up to facilitate nearly immediate use of the customer account. The context of the procedure is explained with regard to a customer accessing a merchant web site for a merchant that is set up with a merchant account at the bank in accordance with the invention. The screen display at the merchant web site is provided with an icon or other indication that the merchant is a bank authorized merchant and that payment can be made employing the bank.

If a potential new customer clicks on the bank icon or otherwise indicates that the customer wants to set up a customer account with the bank, then the setup procedure is initiated. This can initially involve establishing a communications link between the customer and bank. Preferably, the initial setup communications link is via telephone voice line between the customer telephone and the bank setup telephone.

Alternatively, the potential customer may make some initial communications link via the internet in response to the potential customer's indication that it would like to set up an account with the bank.

1 The methods thus advantageously also include prompting the potential  
2 customer to call the bank setup telephone number. The bank setup telephone  
3 number can be a toll-free number, for example 1-800-000-0000. The prompting  
4 of the potential customer involves providing the potential customer with the  
5 telephone number to be used. The prompting also preferably includes instructing  
6 the potential customer that the telephone to be used in the voice telephone setup  
7 contact be the customer's or user's home number, or other customer telephone  
8 number that will be used in future communications sessions with the bank and/or  
9 merchants. Such customer or user telephone line is for convenience called the  
10 designated customer or user telephone line.

11 The prompting also preferably includes explaining that this designated  
12 telephone line is also preferably a telephone line which has caller identification  
13 information available concerning the customer or user, and that such caller  
14 identification information is not in a blocked status. This is desired since in at  
15 least some of the preferred methods the telephone caller identification information  
16 is used by the bank in processing requests for setup, setup modification and  
17 requests for authorization to charge.

18 The potential customer then proceeds by telephoning or otherwise  
19 communicating in a setup mode communications linkage with the bank setup

1 telephone line. The preferred setup mode communications linkage is a customer  
2 voice telephone line communicating with a bank voice telephone line.

3 The methods also include establishing the setup mode communications  
4 linkage between the potential customer and the bank setup communications line.

5 The methods further preferably include providing some or all of the customer  
6 account setup information by voice or other communications mode which is  
7 preferably not via the internet. The providing of customer account information will  
8 typically include voice communication of customer information such as explained  
9 above in connection with typical setup procedures.

10 The quick setup methods further employ a quick setup authenticating step  
11 or steps performed while the potential customer is in the setup mode on-line  
12 communications linkage with the bank. A preferred mode of quick setup  
13 authentication is to use a pre-existing charge card which can be checked for  
14 validity and credit limit quickly while the potential customer is on the telephone  
15 with the bank setup department. Alternatively, the bank may have rapid  
16 processing access to a credit report or abbreviated credit report to use in lieu of  
17 or in addition to using the pre-existing account information. This could be bank-  
18 originated information or third-party originated information.

19 The quick setup procedure may also or alternatively employ the location  
20 information provided by a user or computer which can provide GPS or other

1 secured locational information. This can be cross-checked with an authenticating  
2 source, such as credit reports or other authenticating information, advantageously  
3 from a third-party authentication source.

4 The quick or instant setup procedure speeds setup by providing to the  
5 potential customer a setup option wherein the customer provides credit  
6 authentication information which can be immediately accessed by the bank and  
7 used to provide setup approval and authorization for credit using the customer  
8 account with the bank. One example of such credit authentication information is  
9 the indicated pre-existing credit card. Other quickly accessible customer  
10 authentication and credit information may also be alternatively used.

11 In this process the customer provides via the voice telephone line or other  
12 setup communications linkage, an indication of the bank card customer account  
13 number, customer name and expiration date, similar to making a charge over the  
14 phone using the pre-existing credit card. The bank then utilizes conventional  
15 technology to seek authorization to charge the potential customer's pre-existing  
16 charge account. The authorization request to the pre-existing charge card account  
17 may or may not result in an actual charge to the pre-existing account.

18 Full setup of the customer account with the bank may be subsequently  
19 completed, yet the quick setup procedure will allow an initial transaction or  
20 transactions to be approved by the bank against the new customer's account.

1 When using the quick setup procedure, the bank will typically limit the credit  
2 amount to a low initial value until the full setup procedure can subsequently be  
3 completed. At that time the bank may indicate that additional credit is available  
4 beyond the quick setup credit limit given.

5 After the new customer has been approved using the quick setup procedure,  
6 then the steps for activation and use will be the same as those described above.

#### 7 **4.33 Alternative Process with Assurance to New Merchant**

8 The quick or instant credit procedure described above can also be used in  
9 the context of quick set up of a new merchant account in the same or an  
10 analogous manner to that described above in connection with quick set up of a  
11 new customer account. For example, the merchant can use the merchant's pre-  
12 existing bank card, e.g. a MASTERCARD™. This can be used to authenticate the  
13 merchant to allow a merchant account to be established with the bank on a quick  
14 basis similar to the quick set up procedure for customers described above.  
15 Subsequent completion of the full setup procedure is preferred.

#### 16 **4.34 Further Explanation Concerning Aspects of the Invention**

17 The invention may reside in an individual feature or features or in  
18 combinations of features as set out herein in summarized and exemplary forms.  
19 Although every novel combination has not been individually discussed, it must be  
20 understood that the various features, combinations, subcombinations and functions

1 recited herein are appropriately combined with one or more of the other such  
2 features, combinations, subcombinations and functions to serve as bases for  
3 claiming of patent protection on this invention.  
4

#### **4.35 Further Indication of Aspects of the Invention**

The invention can be considered in a number of different combinations and subcombinations. Exemplary combinations and subcombinations are set out below. It should be appreciated that additional combinations and subcombinations can also be defined consistent with the description given herein.

A method for conducting a purchase of goods or services over the internet, the purchase being made by a customer using a merchant for goods or services which are to be provided at a delivery location, and wherein a bank assures payment to the merchant for said purchase, comprising –

creating a customer account with the bank, said customer account being associated with said customer; the customer account also having:

customer computer identification information associating said

customer account with at least one authorized customer

computer which is identifiable by the bank;

customer delivery address information associating said

customer account with at least one authorized customer

delivery address;

creating a merchant account, said merchant account being associated with said merchant; said merchant having a merchant internet site at which the merchant offers goods or services;



1 displaying to the customer on the merchant internet site indicia which  
2 indicates customers can choose to pay the merchant using said bank;

3 detecting when a customer chooses to pay the merchant using said bank;

4 obtaining computerized order information placed from an ordering computer  
5 which indicates an order for chosen goods or services being sought for purchase  
6 by the customer using the merchant; said obtaining computerized order  
7 information including:

8 obtaining an order delivery address indicating a location for the  
9 delivery of the goods or services associated with the  
10 order;

11 obtaining ordering computer identification information from the  
12 ordering computer;

13 verifying said order delivery address by comparing said order delivery  
14 address to said customer delivery address information kept by the bank to assure  
15 it is an authorized customer delivery address;

16 verifying said ordering computer identification information from the ordering  
17 computer by comparing said ordering computer identification information to said  
18 customer computer identification information kept by the bank to assure it is an  
19 authorized customer computer;

1 communicating assurance of payment to the merchant in connection with  
2 said order upon successful verification of said order delivery address and said  
3 ordering computer identification information.

4 A method for conducting a purchase of goods or services over the internet,  
5 the purchase being made by a customer using a merchant via a merchant internet  
6 site selling goods or services to be provided at a delivery location, and wherein a  
7 bank assures payment to the merchant for said purchase, comprising –

8 creating a customer account with the bank, said customer account being  
9 associated with said customer; the customer account also having:

10 customer computer identification information associating said

11 customer account with at least one authorized customer  
12 computer which is identifiable by the bank;

13 customer delivery address information associating said

14 customer account with at least one authorized customer  
15 delivery address;

16 detecting when a customer chooses to pay the merchant using said bank;

17 obtaining computerized order information placed from an ordering computer  
18 which indicates an order for chosen goods or services being sought for purchase  
19 by the customer using the merchant; said obtaining computerized order  
20 information including:

1 recording an order delivery address indicating a location for the

2 delivery of the goods or services associated with the

3 order;

4 obtaining computer identification information from the ordering

5 computer;

6 verifying said order delivery address by comparing said order delivery  
7 address to said authorized delivery address information kept by the bank;

8 verifying that said computer identification information from the ordering  
9 computer is from an authorized customer computer associated with said customer  
10 account;

11 communicating assurance of payment to the merchant in connection with  
12 said order upon successful verification of said order delivery address and said  
13 computer identification information.

14 A method for conducting a purchase of goods or services over the internet,  
15 the purchase being made by a customer using a merchant, said merchant having  
16 an internet site at which the merchant offers goods or services; and wherein a  
17 bank assures payment to the merchant, comprising –

18 creating a customer account with the bank that is associated with said  
19 customer;

1 providing the customer account with customer account information  
2 associated therewith which includes:

3 authorized user identification information associating said  
4 customer account with at least one authorized user  
5 identification code;

6 customer computer identification information associating said  
7 customer account with at least one authorized customer  
8 computer, said at least one authorized customer  
9 computer being identifiable by the bank;

10 detecting when said customer chooses to pay the merchant using said bank;  
11 recording information indicating the customer has placed an order which  
12 seeks to obtain using the merchant ordered goods or services;

13 obtaining computer identification information about an ordering computer  
14 from which said order has been placed;

15 verifying said computer identification information is from an authorized  
16 customer computer associated with the customer account;

17 recording user identification code information provided by a user of the order  
18 computer when placing said order;

1        verifying said user identification code information by comparing the user  
2 identification code information so provided in comparison to authorized user  
3 identification codes associated with the customer account;

4        communicating assurance of payment to the merchant upon successful  
5 verification of said computer identification information and said user identification  
6 code information.

7        A method for authorizing a purchase of goods or services over the internet,  
8 the purchase being made by a customer using a merchant, said merchant having  
9 an internet site at which the merchant offers goods or services; and wherein a  
10 bank authorizes the purchase and assures payment to the merchant, comprising:

11        detecting when a customer chooses to pay the merchant using said bank;

12        obtaining order information indicating the customer has placed an order  
13 which seeks to obtain goods or services using the merchant;

14        obtaining information about an order computer from which said order has  
15 been placed;

16        accessing customer verification information which includes authorized  
17 customer computer information which indicates one or more computers which have  
18 been authorized for use in placing orders;

19        verifying said order computer used in placing the order is an authorized  
20 customer computer;

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1 communicating to the merchant assurance of payment information upon  
2 successful verification in said verifying step.

1 A method for conducting a purchase of goods or services over the internet,  
2 the purchase being made by a customer using a merchant for goods or services  
3 which are to be provided at a delivery location, and wherein a bank assures  
4 payment to the merchant for said purchase, comprising —

5 creating a customer account with the bank, said customer account being  
6 associated with said customer; the customer account having verification  
7 information contained therein, said verification information including information  
8 about at least one of the following verification parameters:

9 customer delivery address information associating said

10 customer account with at least one authorized customer  
11 delivery address;

12 customer computer identification information associating said

13 customer account with at least one authorized customer  
14 computer which is identifiable by the bank;

15 authorized user identification information associating said

16 customer account with at least one authorized user  
17 identification code; or,

18 authorized telephone caller identification information including

19 at least one authorized telephone caller identification  
20 code;

1 creating a merchant account, said merchant account being associated with  
2 said merchant; said merchant having a merchant internet site at which the  
3 merchant offers goods or services;

4 detecting when a customer chooses to pay the merchant using said bank;

5 communicating to the bank computerized order information originating in  
6 connection with an order for chosen goods or services being sought using the  
7 merchant by a user from an ordering computer;

8 said step of communicating to the bank being performed in connection with  
9 obtaining computerized information about at least one of the following verification  
10 variables:

11 an order delivery address indicating a location for the delivery  
12 of the goods or services associated with the order;

13 ordering computer identification information obtained from the  
14 ordering computer;

15 ordering user identification information obtained from the  
16 ordering user when the order is placed;

17 ordering telephone caller identification information obtained  
18 when the order is placed;



1 validating said order by the bank using said computerized order information  
2 and the verification information kept by the bank in connection with said customer  
3 account;

4 communicating assurance of payment to the merchant in connection with  
5 said order upon successful validation of said order.

6 A method for conducting a purchase of goods or services over the internet,  
7 the purchase being made by a customer using a merchant for goods or services  
8 which are to be provided at a delivery location, and wherein a bank assures  
9 payment to the merchant for said purchase, comprising –

10 creating a customer account with the bank, said customer account being  
11 associated with said customer; the customer account having verification  
12 information contained therein, said verification information including information  
13 about at least one of the following verification parameters:

14 customer delivery address information associating said  
15 customer account with at least one authorized customer  
16 delivery address;

17 customer computer identification information associating said  
18 customer account with at least one authorized customer  
19 computer which is identifiable by the bank;



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ordering telephone caller identification information obtained

when the order is placed;

qualifying said order by the bank using said computerized order information and the verification information kept by the bank in connection with said customer account;

communicating assurance of payment to the merchant in connection with said order upon successful qualification of said order.

A method for purchasing of goods or services and assuring payment over the internet, the purchase being made by a customer using a merchant, said merchant having an internet site at which the merchant offers goods or services; and wherein a bank authorizes the purchase and assures payment to the merchant, comprising:

obtaining computerized order information indicating a customer desires to place an order which seeks to obtain goods or services using the merchant;

communicating the order information to the merchant;

providing customer information to the bank in connection with said order information;

accessing customer verification information by the bank, said customer verification information being previously set up by the customer with the bank;

1 verifying that the customer order information provided in connection with  
2 said order information is associated with said customer;

3 verifying that order delivery address information is an authorized delivery  
4 address associated with the customer;

5 providing delivery address information to the merchant in connection with  
6 said order;

7 communicating from the bank to the merchant assurance of payment  
8 information upon successful verification in said verifying steps.

9 A method for facilitating purchasing of goods or services and assuring  
10 payment over the internet, the purchase being made by a customer using a  
11 merchant, said merchant having an internet site at which the merchant offers  
12 goods or services; and wherein a bank validates the purchase and assures  
13 payment to the merchant, comprising:

14 telephoning the bank by the customer using a caller identification phone line  
15 associated with the customer;

16 providing the bank with customer account information from the customer  
17 using said caller identification phone line;

18 verifying that the customer account information given from the customer  
19 using the caller identification phone line is consistent with account setup





1 verifying said order delivery address by comparing said order delivery  
2 address to said authorized delivery address information kept by the bank;

3 verifying that said computer identification information from the ordering  
4 computer is from an authorized customer computer associated with said customer  
5 account;

6 communicating assurance of payment to the merchant in connection with  
7 said order upon successful verification of said order delivery address and said  
8 computer identification information.

9 A method performed by a bank for processing a purchase of goods or  
10 services over the internet, the purchase being made by a customer using a  
11 merchant, said merchant having an internet site at which the merchant offers  
12 goods or services; and wherein a bank assures payment to the merchant,  
13 comprising –

14 creating a customer account with the bank that is associated with said  
15 customer;

16 providing the customer account with customer account information  
17 associated therewith which includes:

18 authorized user identification information associating said  
19 customer account with at least one authorized user  
20 identification code;

customer computer identification information associating said  
customer account with at least one authorized customer  
computer, said at least one authorized customer  
computer being identifiable by the bank;  
detecting when said customer chooses to pay the merchant using said bank;  
recording information indicating the customer has placed an order which  
seeks to obtain using the merchant ordered goods or services;  
obtaining computer identification information about an ordering computer  
from which said order has been placed;  
verifying said computer identification information is from an authorized  
customer computer associated with the customer account;  
recording user identification code information provided by a user of the order  
computer when placing said order;  
verifying said user identification code information by comparing the user  
identification code information so provided in comparison to authorized user  
identification codes associated with the customer account;  
communicating assurance of payment to the merchant upon successful  
verification of said computer identification information and said user identification  
code information.



1 A method performed by a bank for authorizing a purchase of goods or  
2 services over the internet, the purchase being made by a customer using a  
3 merchant, said merchant having an internet site at which the merchant offers  
4 goods or services; and wherein a bank authorizes the purchase and assures  
5 payment to the merchant, comprising:

6 detecting by the bank when a customer chooses to pay the merchant using  
7 said bank;

8 obtaining by the bank order information indicating the customer has placed  
9 an order which seeks to obtain goods or services using the merchant;

10 obtaining by the bank information about an order computer from which said  
11 order has been placed;

12 accessing customer verification information which includes authorized  
13 customer computer information which indicates one or more computers which have  
14 been authorized for use in placing orders;

15 verifying said order computer used in placing the order is an authorized  
16 customer computer;

17 communicating from the bank to the merchant assurance of payment  
18 information upon successful verification in said verifying step.

19 A method for a bank authorizing a purchase of goods or services and  
20 assuring payment over the internet, the purchase being made by a customer using

a merchant, said merchant having an internet site at which the merchant offers goods or services; and wherein a bank authorizes the purchase and assures payment to the merchant, comprising:

detecting by the bank when a customer chooses to pay the merchant using  
said bank;

obtaining by the bank order information indicating the customer has placed an order which seeks to obtain goods or services using the merchant;

obtaining by the bank order information about an order computer from which said order has been placed;

obtaining by the bank order information about an order delivery address to which said order is to be sent;

accessing customer verification information which includes authorized customer computer information which indicates one or more computers which have been authorized for use in placing orders;

verifying said order computer used in placing the order is an authorized customer computer;

verifying said order delivery address is an authorized customer delivery address;

communicating from the bank to the merchant assurance of payment information upon successful verification in said verifying steps.

1 A method performed by a bank for authorizing a purchase of goods or  
2 services and assuring payment over the internet, the purchase being made by a  
3 customer using a merchant, said merchant having an internet site at which the  
4 merchant offers goods or services; and wherein a bank authorizes the purchase  
5 and assures payment to the merchant, comprising:

6 detecting by the bank when a customer chooses to pay the merchant using  
7 said bank;

8 obtaining by the bank order information indicating the customer has placed  
9 an order which seeks to obtain goods or services using the merchant;

10 obtaining by the bank order information about an order computer from which  
11 said order has been placed;

12 obtaining by the bank order information about an order delivery address;  
13 accessing customer verification information which includes authorized  
14 customer computer information which indicates one or more computers which have  
15 been authorized for use in placing orders;

16 verifying said order computer used in placing the order is an authorized  
17 customer computer;

18 verifying said order delivery address is an authorized customer delivery  
19 address;

1 communicating from the bank to the merchant an authorized delivery  
2 address and assurance of payment information upon successful verification in said  
3 verifying steps.

4 A method performed by a bank for authorizing a purchase of goods or  
5 services and assuring payment over the internet, the purchase being made by a  
6 customer using a merchant, said merchant having an internet site at which the  
7 merchant offers goods or services; and wherein a bank authorizes the purchase  
8 and assures payment to the merchant, comprising:

9 detecting by the bank when a customer chooses to pay the merchant using  
10 said bank;

11 obtaining by the bank order information indicating the customer has placed  
12 an order which seeks to obtain goods or services using the merchant;

13 obtaining by the bank order telephone caller identification information from  
14 which said order has been placed;

15 accessing customer verification information which includes authorized  
16 customer computer information which indicates one or more computers which have  
17 been authorized for use in placing orders;

18 verifying said order computer used in placing the order is an authorized  
19 customer computer;

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1 verifying said order telephone caller identification information is an  
2 authorized customer telephone caller identification;

3 communicating from the bank to the merchant an assurance of payment  
4 information upon successful verification in said verifying steps.

5 A method performed by a bank for authorizing a purchase of goods or  
6 services over the internet, the purchase being made by a customer using a  
7 merchant for goods or services which are to be provided at a delivery location, and  
8 wherein a bank assures payment to the merchant for said purchase, comprising –

9 creating a customer account with the bank, said customer account being  
10 associated with said customer; the customer account having verification  
11 information contained therein, said verification information including information  
12 about at least one of the following verification parameters:

13 customer delivery address information associating said  
14 customer account with at least one authorized customer  
15 delivery address;

16 customer computer identification information associating said  
17 customer account with at least one authorized customer  
18 computer which is identifiable by the bank;









1 creating a customer account with the bank, said customer account being  
2 associated with said customer; the customer account having verification  
3 information contained therein, said verification information including information  
4 about at least one of the following verification parameters:

5 customer delivery address information associating said  
6 customer account with at least one authorized customer  
7 delivery address;

8 customer computer identification information associating said  
9 customer account with at least one authorized customer  
10 computer which is identifiable by the bank;

11 authorized user identification information associating said  
12 customer account with at least one authorized user  
13 identification code; or,

14 authorized telephone caller identification information including  
15 at least one authorized telephone caller identification  
16 code;

17 detecting when a customer chooses to pay the merchant using said bank;  
18 communicating from the customer to the bank computerized order  
19 information originating in connection with an order for chosen goods or services  
20 being sought using the merchant by a user from an ordering computer;

1        said step of communicating from the customer to the bank being performed  
2 in connection with computerized information about at least one of the following  
3 verification variables:

4            an order delivery address indicating a location for the delivery  
5            of the goods or services associated with the order;  
6            ordering computer identification information obtained from the  
7            ordering computer;  
8            ordering user identification information obtained from the  
9            ordering user when the order is placed;  
10          ordering telephone caller identification information obtained  
11          when the order is placed.

12        A method for establishing a customer account with a bank which is used to  
13 pay merchants in connection with internet purchase transactions for goods or  
14 services, comprising:

15            creating a customer account with the bank, said customer account being  
16 associated with said customer and having customer account information; said  
17 customer account information including customer computer identification  
18 information associating said customer account with at least one authorized  
19 customer computer which is identifiable by the bank while the customer is in  
20 communication over the internet.

1 A method for establishing a customer account with a bank which is used to  
2 pay merchants in connection with internet purchase transactions for goods or  
3 services, comprising:

4 telephoning the bank by the customer using a caller identification phone line  
5 associated with the customer;

6 providing the bank with customer account information from the customer  
7 using said caller identification phone line;

8 verifying that the customer account information given from the customer  
9 using the caller identification phone line is consistent with account setup  
10 verification information which includes the caller identification information available  
11 when the customer uses the caller identification phone line;

12 creating a customer account with the bank, said customer account being  
13 associated with said customer and having customer account information; said  
14 customer account information including customer computer identification  
15 information associating said customer account with at least one authorized  
16 customer computer which is identifiable by the bank while the customer is in  
17 communication over the internet.

18 A method for establishing a customer account with a bank which is used to  
19 pay merchants in connection with internet purchase transactions for goods or  
20 services, comprising:

1 telephoning between the bank and the customer to provide oral explanation  
2 of customer account information using a caller identification phone line associated  
3 with the customer, said oral explanation of customer account information including:

4 customer name information;

5 at least one authorized customer delivery address;

6 at least one authorized user identification code;

7 verifying that the customer account information given from the customer  
8 using the caller identification phone line is consistent with account setup  
9 verification information which includes the caller identification information available  
10 when the customer uses the caller identification phone line;

11 creating a customer account with the bank, said customer account being  
12 associated with said customer and having customer account information; said  
13 customer account information including:

14 customer computer identification information associating said  
15 customer account with at least one authorized customer  
16 computer which is identifiable by the bank while the  
17 customer is in communication over the internet;

18 customer delivery address information associating said  
19 customer account with at least one authorized customer  
20 delivery address;

1 authorized user identification information associating said  
2 customer account with at least one authorized user  
3 identification code.

4 A method for purchasing of goods or services and assuring payment over  
5 the internet, the purchase being made by a customer using a merchant, said  
6 merchant having an internet site at which the merchant offers goods or services;  
7 and wherein a bank authorizes the purchase and assures payment to the  
8 merchant, comprising:

9 obtaining order information indicating a customer desires to place an order  
10 which seeks to obtain goods or services using the merchant;

11 delivering the order information to the merchant;

12 providing customer verification information to the bank;

13 accessing customer verification information by the bank, said customer  
14 verification information being previously set up with the bank;

15 verifying that the order information is associated with the customer using the  
16 customer verification information;

17 providing delivery address information to the merchant from the bank in  
18 connection with said order;

19 communicating from the bank to the merchant assurance of payment  
20 information upon successful verification in said verifying step.

1 A method for purchasing of goods or services and assuring payment over  
2 the internet, the purchase being made by a customer using a merchant, said  
3 merchant having an internet site at which the merchant offers goods or services;  
4 and wherein a bank authorizes the purchase and assures payment to the  
5 merchant, comprising:

6 obtaining by the bank computerized order information indicating a customer  
7 desires to place an order which seeks to obtain goods or services using the  
8 merchant;

9 communicating the at least some of the order information from the bank to  
10 the merchant;

11 providing customer information to the bank in connection with said order  
12 information;

13 accessing customer verification information by the bank, said customer  
14 verification information being previously set up by the customer with the bank;

15 verifying that the customer order information provided in connection with  
16 said order information is associated with said customer;

17 verifying that order delivery address information is an authorized delivery  
18 address associated with the customer;

19 providing delivery address information to the merchant in connection with  
20 said order;

1 communicating from the bank to the merchant assurance of payment  
2 information upon successful verification in said verifying steps.

3 A method for purchasing of goods or services and assuring payment over  
4 the internet, the purchase being made by a customer using a merchant, said  
5 merchant having an internet site at which the merchant offers goods or services;  
6 and wherein a bank authorizes the purchase and assures payment to the  
7 merchant, comprising:

8 obtaining order information indicating a customer desires to place an order  
9 which seeks to obtain goods or services using the merchant;

10 delivering a first portion of the order information to the merchant using a  
11 customer computer;

12 delivering a second portion of the order information to the merchant via a  
13 bank computer;

14 providing customer information to the bank in connection with said order  
15 information;

16 accessing customer verification information by the bank, said customer  
17 verification information being previously set up by the customer with the bank;

18 verifying that the customer information provided in connection with said  
19 order information is associated with said customer;

1 communicating from the bank to the merchant assurance of payment  
2 information upon successful verification in said verifying step.

3 A method for validating a purchase of goods or services over the internet,  
4 the purchase being made by a customer using a merchant, said merchant having  
5 an internet site at which the merchant offers goods or services; and wherein a  
6 bank authorizes the purchase and assures payment to the merchant, comprising:

7 detecting when a customer chooses to pay the merchant using said bank;  
8 obtaining order information indicating the customer has placed an order  
9 which seeks to obtain goods or services using the merchant;

10 obtaining information about an order computer from which said order has  
11 been placed;

12 accessing customer verification information which includes authorized  
13 customer computer information which indicates one or more computers which have  
14 been authorized for use in placing orders;

15 verifying said order computer used in placing the order is an authorized  
16 customer computer;

17 validating the order.

#### 18 **4.36 General and Interpretational Explanation**

19 Various forms and aspects of the invention have been described. It should  
20 be understood that the invention may in alternative forms include one or more of



